FILE NO.

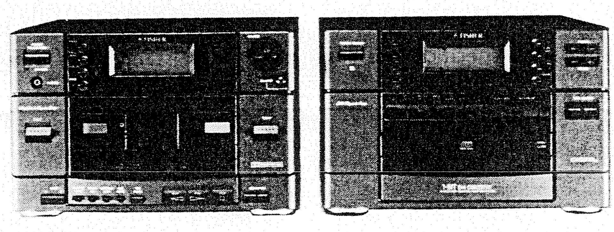
SERVICE MANUAL

FISHER

TAD G40

(DE)

Mini Component System



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PRODUCT CODE No.
129 404 00

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This Service manual is consist of "REM M30", "TUP G40", "CAC G40".

REFERENCE No. SM580064

SPECIFICATION

CASSETTE DECK / AMPLIFIER UNIT (CAC G40)

Cassette decks	
Track system	4-track, 2-channel stereo
Frequency response	Chrome tapes: 40 - 13,500 Hz Normal tapes: 40 - 12,500 Hz
Signal to noise ratio	60 dB(with DOLBY NR : ON)
Wow and flutter	0.09% (WRMS)
Fast forward / rewind time	Approx. 120 sec. (C-60)
Amplifier	
Output power	20 W x 2 (at 8 ohms, 0.9% distortion)
Graphic equalizer	7 band electronic
Spectrum analyzer	7 band
Inputs	PHONO : 5 mV / 47k ohms VIDEO : 280 mV / 47k ohms
Outputs	SUPER WOOFER OUT : 600 mV SPEAKERS : 8 ohms PHONES : 8 ohms
General	
Power requirements	AC : 230 V (115 V), 50 Hz
Power consumption	75 W
Dimensions(approx.)	270 (W) x 178 (H) x 317 (D) mm
Weight(approx.)	5.2 kg

TUNER / TIMER / CD PLAYER UNIT (TUP G40)

Tuner	
Reception frequency	FM : 87.5 - 108 MHz MW : 522 - 1,611 kHz LW : 144 - 290 kHz
CD player	
Channels	2-channel stereo
Sampling frequency	44.1 kHz
Pick-up	Optical 3-beam semiconductor laser
Frequency response	20 - 20,000 Hz
Wow and flutter	Below measurable limits
General	
Dimensions(approx.)	270 (W) x 178 (H) x 278 (D) mm
Weight(approx.)	2.9 kg

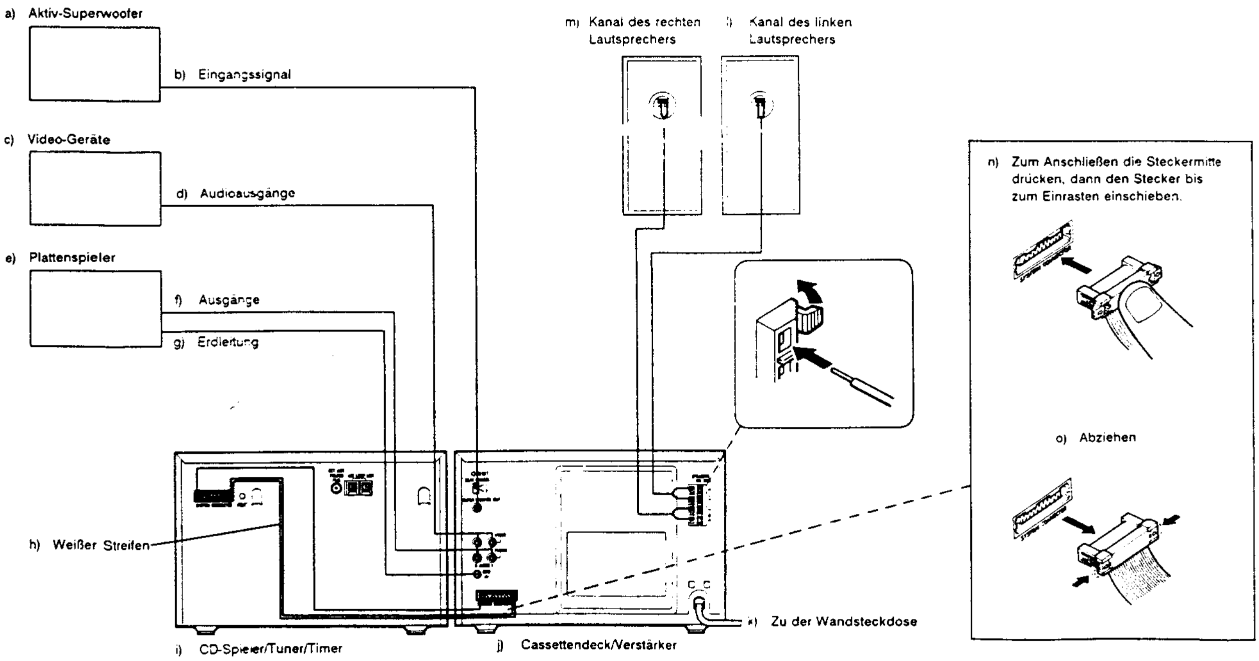
REMOTE CONTROLLER (REM M30)

Power requirements	DC : 3V "R03 / AAA / UM-4" Battery x 2
Dimensions(approx.)	58 (W) x 18 (D) x 186 (H) mm

Specification subject to change without notice.

Note : The below mentioned specifications are mainly based on the IHF measurements standard. They can therefore not directly be compared with specifications based on the DIN standard or other standards.

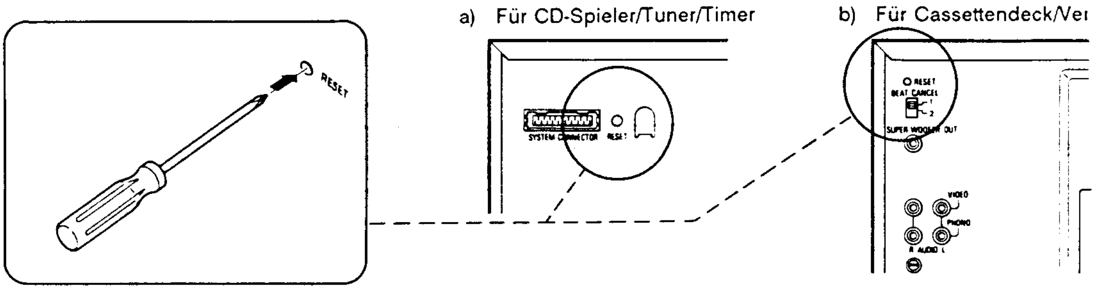
SYSTEM CONNECTION


a) Aktiv-Superwoofer
b) Eingangssignal
c) Video-Geräte
d) Audioausgänge
e) Plattenspieler
f) Ausgänge
g) Erdleitung
h) Weißer Streifen
i) CD-Spieler/Tuner/Timer
j) Cassettendeck/Verstärker
k) Zu der Wandsteckdose
m) Kanal des rechten Lautsprechers
l) Kanal des linken Lautsprechers
n) Zum Anschließen die Steckermitte drücken, dann den Stecker bis zum Einrasten einschieben.
o) Abziehen

OPERATING THE RESET SWITCH

This CD/TUNER and TAPE DECK/PRE-AMPLIFIER unit is provided with a reset switch on the rear panel. The reset switch serves to initialize the microprocessor in the each units which controls the CD, TUNER, TAPE DECK and etc block. If the unit is to be serviced or key input is not acknowledged even when the CD/TUNER, TAPE DECK and etc. operation buttons are pressed, press the RESET switch and initialize the microprocessor following the step below.

1). Disconnect the AC power cord from the power outlet.
2). Keep the RESET switch depressed for 60 seconds.
 (The backed up electrolytic capacitor is discharged by keeping the RESET switch depress.)
3). Reconnect the AC power cord to the power outlet.
4). Press the CD/TUNER, TAPE DECK and etc. operations, and check their operation.



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.
N.S.P : Not available as service parts.

PACKING

Ref. No.	Part No.	Description
	614 247 2378	INNER CARTON
	614 246 7176	PAD,TOP
	614 246 7183	PAD,BOTTOM
	614 246 8876	SHEET,CT UNIT
	614 239 1785	SHEET,CD TRAY
	614 246 8876	SHEET,DA UNIT
	614 244 0261	INNER POLYE COVER,CT UNIT
	614 244 0261	INNER POLYE COVER,DA UNIT
	614 236 0132	POLY COVER,REMOCON
	614 244 0247	INNER POLYE COVER, INST & ACCESSORY
	614 176 1039	INNER POLYE COVER,SCREW
	614 231 6832	LABEL,SAFETY,LASER

ACCESSORIES

Ref. No.	Part No.	Description
	614 247 2392	INSTRUCTION MANUAL
	614 023 7344	ANTENNA,FM
or	614 229 4635	ANTENNA,FM
	614 234 5511	LOOP ANTENNA,AM
	411 083 9307	SCR WOOD RND 3.1X13,AM ANT
	614 239 5288	ASSY,CONNECTOR-P,19P, CD/TUNER - DECK/AMP UNIT

REMOTE CONTROLLER UNIT

PARTS LIST

REMOCON (REM M30)

Ref. No.	Part No.	Description
	614 243 8169	ASSY,REMOCON
	614 235 9433	LID,BATTERY

TUNER / CD PLAYER UNIT

ADJUSTMENT (TUNER)

- Use a plastic screwdriver for adjustment.
- Adjust the intermediate frequency of AM and FM to the frequency of ceramic filter.

1. FM BAND

SG RF Level : 75 ohm Open voltage dBμV
Antenna : 75 ohm Direct, Modulation : 1kHz, Dev. : ±75kHz (mono) · ±40kHz (main) · ±6.75kHz(pilot)

STEP	ITEMS	TUNING FREQUENCY	INPUT CONDITION		OUTPUT CONDITION		PARTS	STANDARDS
			MEASURE	INPUT	MEASURE	OUTPUT		
1	COVER	87.5MHz 108.0MHz	------	------	Digital Voltmeter	TP202(H) TP201(E)	------ ------	Confirm 1.4~1.6V Confirm ≤8.5V (about 7.8V)
2	IF(0V)	98.0MHz	FM SG (66dB)	TP211(H) TP212(E)	Digital Voltmeter	TP203(H) #TP204(E)	T2202	0±0.05V
3	VCO	98.0MHz	FM SG (66dB)	TP211(H) TP212(E)	Frequency Counter	TP206(H) TP207(E)	SVR23	##19KHz±50Hz

: TP204 is no earth point. ## : Adjust in the modulation off Tuner Mode : AUTO STEREO

2. MW BAND

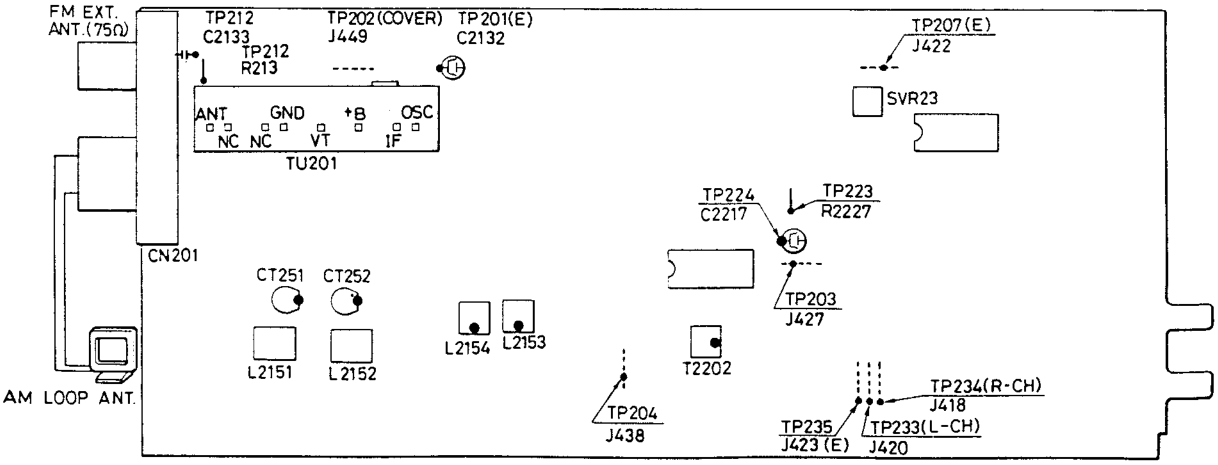
Antenna : IRE Loop, Modulation : 1kHz 30% SG RF Level : 75 ohm Open voltage dBμV

STEP	ITEMS	TUNING FREQUENCY	INPUT CONDITION		OUTPUT CONDITION		PARTS	STANDARDS
			MEASURE	INPUT	MEASURE	OUTPUT		
1	COVER	522kHz 1611kHz	------	------	Digital Voltmeter	TP202(H) TP201(E)	L2153 ------	Confirm 1.0~1.4V Confirm ≤8.5V (about 7.2V)
2	TRACKING	603kHz 1404kHz	AM SG (about 80dB)	LOOP ANT	VTVM Oscilloscope	TP233(L) TP234(R) TP235(E)	L2152 CT252	Output : Maximum Confirm to near the effective sensitivity.

3. LW BAND

STEP	ITEMS	TUNING FREQUENCY	INPUT CONDITION		OUTPUT CONDITION		PARTS	STANDARDS
			MEASURE	INPUT	MEASURE	OUTPUT		
1	COVER	144kHz 290kHz	------	------	Digital Voltmeter	TP202(H) TP201(E)	L2154 ------	Confirm 1.3~1.8V Confirm ≤8.5V (about 6.5V)
2	TRACKING	162kHz 279kHz	AM SG (about 80dB)	LOOP ANT	VTVM Oscilloscope	TP233(L) TP234(R) TP235(E)	L2151 CT251	Output : Maximum Confirm to near the effective sensitivity.

4. PARTS LOCATION

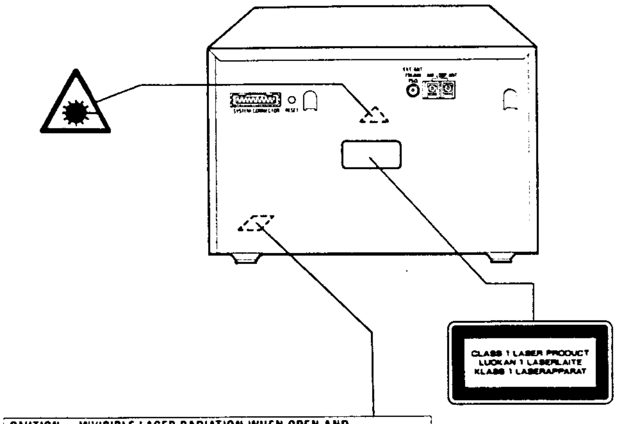

FM EXT. ANT.(75Ω)
TP212
C2133
TP212
R213
TP202(COVER)
J449
TP201(E)
C2132
ANT
GND
+B
OSC
NC
NC
VT
IF
TU201
TP207(E)
J422
SVR23
CN201
TP224
C2217
TP223
R2227
TP203
J427
CT251
CT252
L2151
L2152
L2154
L2153
T2202
AM LOOP ANT.
TP204
J438
TP234(R-CH)
J418
TP235
J423 (E)
TP233(L-CH)
J420

LASER BEAM SAFETY PRECAUTIONS (CD)

Do not look straight at the laser beam from the pickup and do not point the beam at your fingers or any other part of your body.
Note: The laser beam must never be allowed to enter the eyes since this may damage the eyes.
Power must never be supplied to a pickup with a damaged laser output part (objective lens, etc.).

Structural Safety Interlock
This model has a disc chuck lever and top lid. This disc chuck lever and top lid prevent to expose the laser beam for users.

INVISIBLE LASER RADIATION EXPOSURE TO BEAM IS DANGEROUS CLASS 1 LASER PRODUCT
OUTPUT POWER : 0.6 mW MAX WAVELENGTH : 790 nm



CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.

VARNING – OSYNLIG LASER STRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.

VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT, DEM STRAHL AUSSETZEN.

VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

ACHTUNG - WENN ANDERE ALS DIE HIER BESCHRIEBENEN BEDIENUNGS- ODER JUSTIEREINRICHTUNGEN BENÜTZT ODER ANDERE ARBEITEN AUSGEFÜHRT WERDEN, KANN DIES ZU GEFÄHRLICHER STRAHLUNGSEINWIRKUNG FÜHREN.

ATTENTION - L'EMPLOI D'ORGANES DE COMMANDE OU DE RÉGLAGE, OU L'EXÉCUTION DE PROCÉDURES, AUTRES QUE CEUX SPÉCIFIÉS DANS LE MODE D'EMPLOI, PEUT PROVOQUER UNE EXPOSITION DANGEREUSE AU RAYONNEMENT.

CAUTION - USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

VARNING! OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN VAD SOM BESKEIV I DENNA BRUKSANVISNING, KAN ANVÄNDARE UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

OPGELET - HET GEBRUIK VAN REGELAARS OF HET MAKEN VAN AFSTELLINGEN E.D. DIE NIET IN DEZE GEBRUIKSAANWIJZING ZIJN BESCHREVEN KAN LEIDEN TOT SCHADELIJKE STRALINGEN.

CAUTELA - L'USO DI COMANDI, AGGIUSTAMENTI O PROCEDIMENTI DIVERSO DA QUELLO QUI SPECIFICATO PUÒ DAR LUOGO AD ESPOSIZIONE A RADIAZIONI PERICOLOSE.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEIYLLE.

PRECAUCION: EL USO DE CONTROLES O AJUSTES, O PROCEDIMIENTOS DE OPERACION DIFERENTES DE LOS ESPECIFICADOS EN ESTE DOCUMENTO RESULTARAN EN EXPOSICION PELIGROSA A LA RADIACION.

ATTENZIONE: L'USO DI CONTROLLI, REGOLAZIONI O PROCEDURE DIVERSI DA QUELLI SPECIFICATI IN QUESTO MANUALLE PUÒ RISULTARE IN PERICOLOSE ESPOSIZIONI A RADIAZIONI.

1. Precautions for handling the pickup and semiconductors (particularly the ICs)

a. The pickup and semiconductors (particularly the ICs) may be damaged if they come into contact with a source of high voltage static electricity. Do not bring them, therefore, into contact with or into the vicinity of anything which has been charged with high voltage static.

b. The pickup consists of a large number of optical and precision parts. Do not store or repair it, therefore, in any location with a high temperature, high humidity, high magnetic fields or high dust concentration. (Since the pickup contains a powerful magnet, it must not be brought near any magnetized objects.)

c. Do not apply strong external pressure to the pickup or subject it to impact. Actions like these can cause the printed circuit board to crack or malfunctioning to occur.

d. The pickup is a single integrated part which has been very precisely adjusted. Therefore, its adjustment points and set screws must not be touched.

2. How to prevent static during handling

a. When replacing any of the parts, disconnect the power plug from the unit being repaired.

b. All measuring instruments, tools and repair equipment must be grounded. Cover the work bench where the repair work will be done with a grounded electrically conductive sheet.

c. Ground the metal part of the soldering iron in order to safeguard against leakage of electricity from the heater.

d. Repair personnel must wear grounding bands around their wrists to discharge static picked up by their bodies. These bands are grounded through a resistor (with a 1MΩ resistance).

Note: Under no circumstances must be the grounding bands be grounded without a resistor (with a 1MΩ resistance) since doing so involves the risk of electric shocks.
Since static in the clothes of the repair personnel will not be discharged by wearing grounding bands, every care must be taken not to allow the clothes to touch the pickup and semiconductors (particularly the ICs).

e. The pickup, which is a single integrated part, is kept in a conductive bag. Use this bag to convey the pickup from one place to another. In order to avoid damage resulting from static which may occur when the pickup is removed from the bag, make sure that it is not placed on top of the bag.

3. Cleaning the lens surface

a. Blow off dust on the lens using the kind of air brush which is used for cameras.

b. Remove stubborn dirt with a cotton swab dipped in isopropyl alcohol. Do not use any other type of cleaning fluid since it may mark the plastic lens.

Notes:
- ● Do not use too much isopropyl alcohol: the excess may seep inside the pickup.
- ● The lens is held in place by a very feeble support spring. Therefore, when cleaning the lens, avoid applying any more force by the cotton swab than is necessary since this may bend the support spring out of shape.

CD MECHANISM REMOVAL

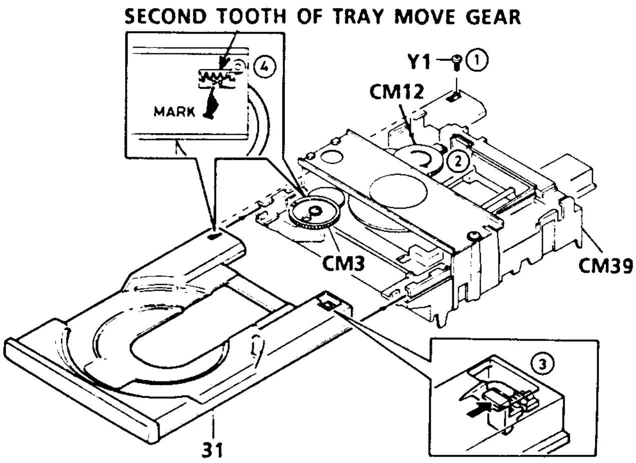
1) Preparations

1) Do not apply unnecessary force to the pickup when handling it. Care should be taken not even to touch the lens or drive circuit sections.
2) Do not apply unnecessary force (do not pull or push it forcefully) to remove the disc tray from its inside position. Unnecessary force may break the teeth on the tray gear (CM6).
3) In the descriptions which follow, the numbers in the parentheses after the parts are reference numbers in the exploded views. Refer to these views.

2) Removing and installing the disc tray

1) Remove the stop screw (Y1) of the disc tray (31). (①)
2) Pull the disc tray (31) all the way forward by turning the tray drive gear (CM12) clockwise. (②)
   Note: Do not take hold of the disc tray (31) and pull it out by force.
3) Push the catch on the disc tray (31) in the direction shown by the arrow, and draw out the disc tray (31). (③)
4) To install the disc tray, turn the gear (CM12) in the direction of the arrow as far as it will go. (②)
5) Align the disc tray (31) with the mechanism chassis (CM39). Adjusting second tooth of the tray move gear (CM3). (④)
6) Push the disc tray (31) toward the rear, and interlock it with the tray drive gear (CM12) as shown in Fig.④ .
7) Secure it with the screw (Y1) which was removed in step 1).

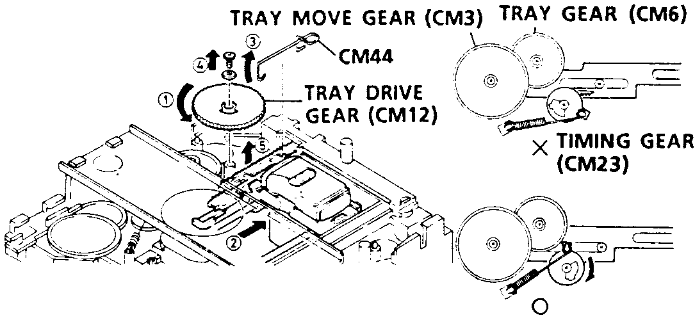
DISC TRAY REPLACEMENT



3) Disassembling the mechanism

(1) Removing the pickup block

1) Remove the disc tray (31). (Refer to steps 1), 2) and 3) of the section entitled "Removing and installing the disc tray.")
2) Turn the tray drive gear (CM12) counterclockwise (①), and move the pickup in the direction of arrow (②) as far as it will go.
3) Remove the spring wire (CM44) with tweezers. (③)
4) Remove the screw (CM11), and also remove the tray drive gear (CM12) and washer (CM13). (④)
5) Now remove the pick rack gears (CM16 and CM19).
   Note: It will not be possible to remove the pick rack gears (CM16 and CM19) unless the pickup has been moved all the way in the direction of arrow (②).
6) The pickup block can now be removed by taking out the screw (CM51) and spring coil (CM49).
   Note: If the timing gear (CM23) is in the state shown by "X" in the figure on the right, put it in the state shown by "O".

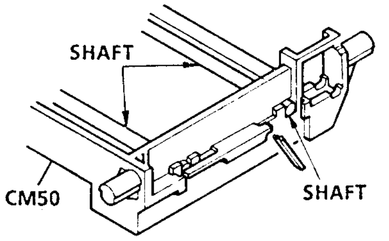


MECHANISM REMOVAL (CD)

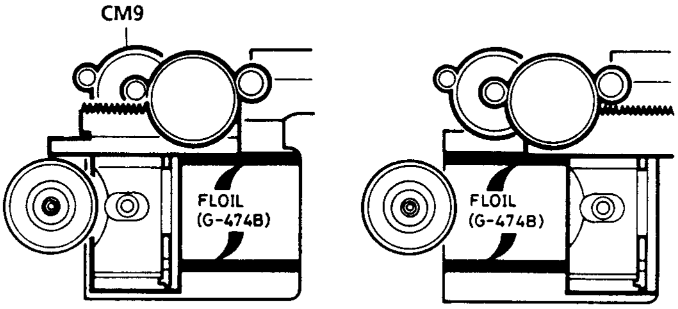
(2) Replacing and lubricating the pickup

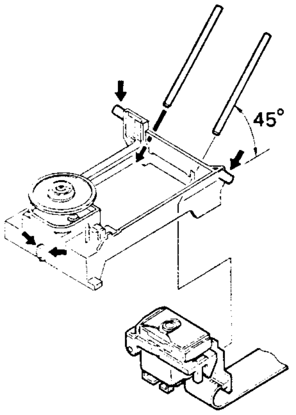
1) Pull out the two pickup rails (CM43) from the chassis (CM50).
2) The pickup (CM52) can now be removed once the two pickup rails (CM43) have been taken out.
3) When the pickup has been replaced, be sure to wipe the two pickup rails (CM43) cleanly and apply grease (FLOIL G-474B) around the entire circumference of the rails and along their entire length.
4) Pass the two pickup rails (CM43) through the new pickup (CM52), insert them into the chassis (CM50), and fix them in place at an angle of 45° as shown in the figure.

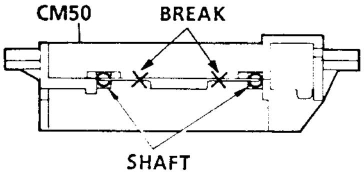
Notes:
- a. When applying the grease, do not allow any grease to adhere to any other parts.
- b. If a part (indicated by the dots in the figure) of the chassis (CM50) is damaged in the process of removing or inserting the two pickup rails (CM43) from or into the chassis (CM50), wipe the damaged area with a cloth dipped in alcohol (normal hexane), and bond it together using a bonding agent (Cemedine #575).


SHAFT
CM50
SHAFT

FIX BY THE CEMEDINE #575

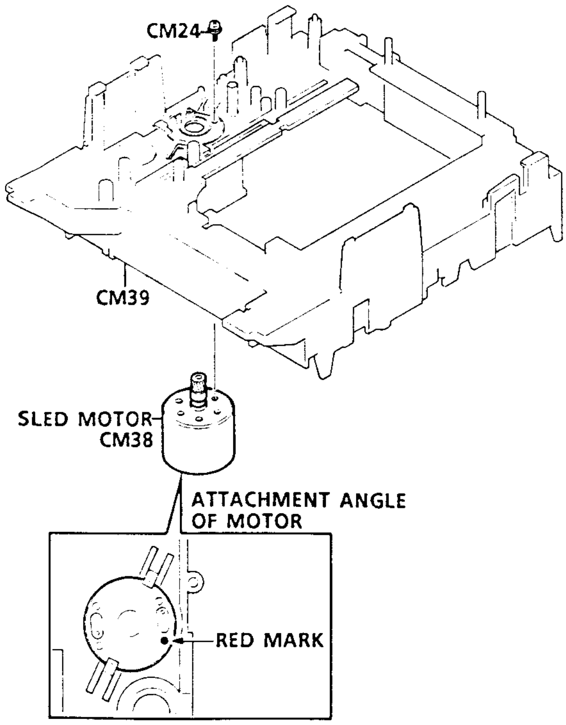

CM9
FLOIL (G-474B)
FLOIL (G-474B)




CM50
BREAK
SHAFT

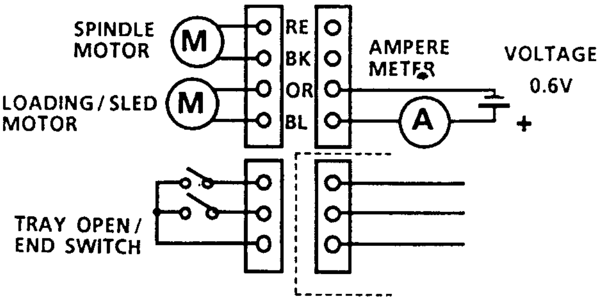
(3) Replacing the loading/sled motor

1) The loading/sled motor (CM38) can be removed from the chassis (CM39) once the screw (CM24) securing the motor (CM38) is removed.
2) Mount the new loading/sled motor (CM38) onto the chassis (CM39) using the screw (CM24).


CM24
CM39
SLED MOTOR CM38
ATTACHMENT ANGLE OF MOTOR
RED MARK

(4) Checking the loading/sled motor's operation

1) As shown in the figure, connect an ammeter and a DC power supply to the loading/sled motor (CM38), and set the tray open and end switches to the "off" [open] positions.
2) Check that the pickup (CM52) moves smoothly without stopping from the inner circumference of the compact disc toward its outer circumference when a DC 0.6V voltage is applied from the DC power supply.
3) The disc tray is housed inside and the gear (CM9) slips when a DC 4V voltage is applied from the DC power supply. Check that the ammeter indicates 120mA or more at this time.

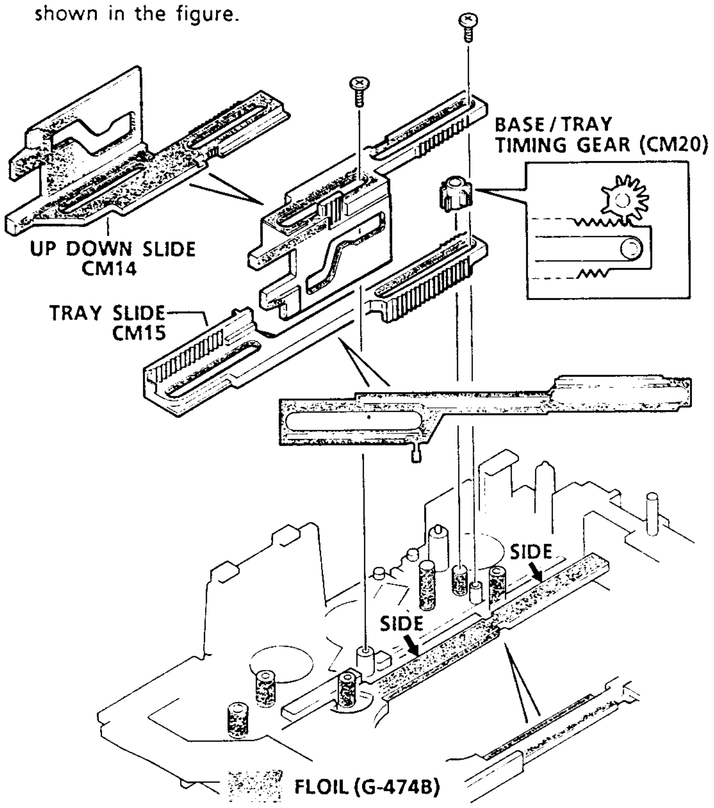

SPINDLE MOTOR
M
LOADING/SLED MOTOR
M
RE
BK
OR
BL
AMPERE METER
A
VOLTAGE 0.6V
+
TRAY OPEN/ END SWITCH

MECHANISM REMOVAL (CD)

4) Check points for CD mechanism assembly and lubrication

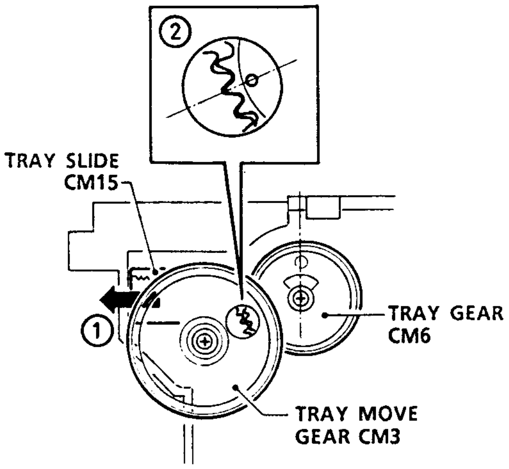
(1) Lubricating and mounting the tray slide

1) Apply grease (FLOIL G-474B) to the area indicated by the diagonal in the figure.
2) When inserting the tray slide (CM15), set the position where it is installed vis-a-vis the base/tray timing gear (CM20) as shown in the figure.


BASE / TRAY
TIMING GEAR (CM20)
UP DOWN SLIDE
CM14
TRAY SLIDE
CM15
SIDE
SIDE
FLOIL (G-474B)

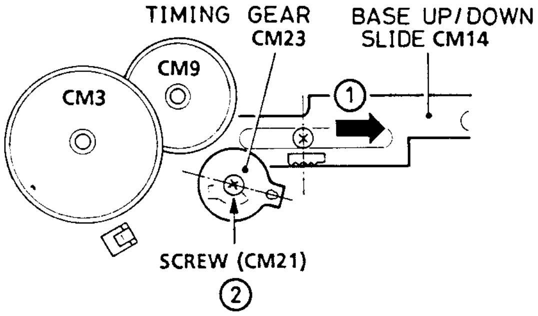
(2) Installing the tray gear

1) Move the tray slide (CM15) in the direction of the arrow ①.
2) Engage the gear section of the tray slide (CM15) with the inner gear of the tray gear (CM6) at the center line, as shown in the figure.
3) Align the tray move gear (CM3) with the position (○) of the hole in the outer gear of the tray gear (CM6) and engage the tray move gear (CM3), as shown in the figure.

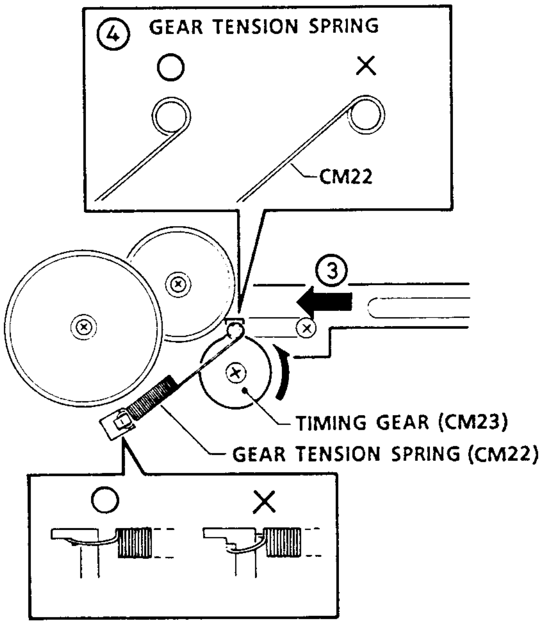

②
TRAY SLIDE
CM15
①
TRAY GEAR
CM6
TRAY MOVE
GEAR CM3

(3) Installing the base up/down slide and timing gear

1) Move the base up/down slide (CM14) in the direction of the arrow ①, and set the gears at the positions shown in the figure.
2) Insert the timing gear (CM23), and mount it using the screw (CM21).
3) Turn the timing gear (CM23) counterclockwise.


TIMING GEAR
CM23
BASE UP/DOWN
SLIDE CM14
CM9
CM3
①
SCREW (CM21)
②

4) Hook the gear tension spring (CM22) onto the timing gear (CM23).


④ GEAR TENSION SPRING
○
×
CM22
③
TIMING GEAR (CM23)
GEAR TENSION SPRING (CM22)
○
×

SERVICE MODE

Specifications

To enter any service mode other than timer debugging, first simultaneously press the OPEN/CLOSE and BAND keys on the CT unit. This accesses the service mode entry state. Now press one of the buttons on the CT unit to enter a service mode. As the service mode entry state is discontinued after 1 second elapses, the system will enter a service mode only if the next key is pressed within one second.

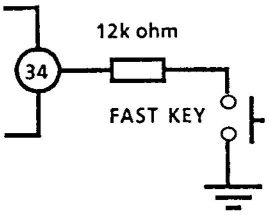
1. Confirm the clock

- When the CLOCK key is pressed during the service mode entry state, a rectangular wave with a frequency of one- fourth that of the oscillating frequency (1.048576MHz) is output from the micro processor's port CLKOUT.
- The clock output is stopped by pressing either the POWER or SET CLEAR key.

2. Timer debugging

- When the FAST key is pressed, the current time advances one minute and the seconds readout changes to 55 seconds. If the key is held down the time advances continuously.
- The FAST key, a concealed key not actually mounted to the set.

  Note : For timer debugging, the service mode entry state (entered by simultaneously pressing the OPEN/CLOSE service mode entry key and the BAND key) is not necessary.


12k ohm
34
FAST KEY

3. Checking the key input signal connections

- Enter this mode by pressing the MEMORY(TUNER) key during the service mode entry state.
- The entire LCD goes out once this mode is entered.
- In this mode, as keys on the CT unit (or remote control unit) are pressed segments on the LCD corresponding to each key on a one-to-one basis come on (i.e. the lit portions gradually increase). (Refer to Table 1.)

KEY	DISPLAY	KEY	DISPLAY	KEY	DISPLAY
TIME / FADE	TIME	CLOCK	REC	FUNCTION	DIGIT 3 : 8
REPEAT	REPEAT	SLEEP	SLEEP	BAND	DIGIT 4 : 8
STOP	ONE	TUNING UP	SIDE A	PST UP	1 OF CALENDAR
CD MEMORY	PROG.	TUNING DOWN	SIDE B	PST DOWN	2 OF CALENDAR
PLAY / PAUSE	▷	WAKE UP	WAKE UP	FM/TUNE MODE	3 OF CALENDAR
RANDOM	RANDOM	TIMER	TIMER	WIDE	4 OF CALENDAR
OPEN / CLOSE	ALL	SET / CLEAR	@	FWD	DISC
EDIT	EDIT	MEMORY	5 OF CALENDAR	BACK	TRACK
COMPUTER REC	COMP. REC	POWER	DIGIT 2 : 8		

@ : Releases the key checking mode and returns the set to the normal mode.

TABLE 1 : CORRESPONDING KEYS AND DISPLAYS IN THE KEY CHECKING MODE

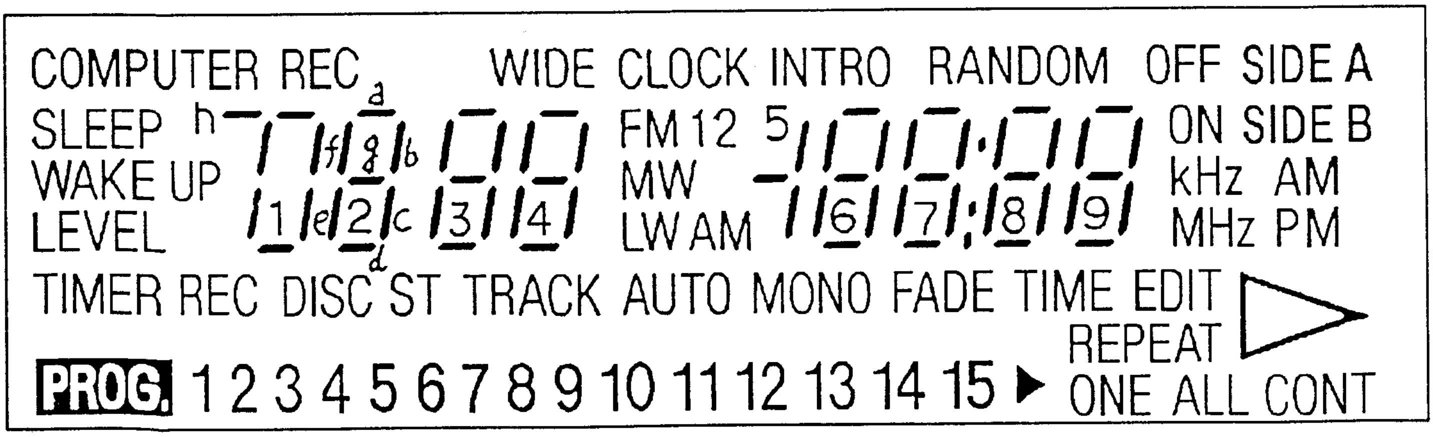
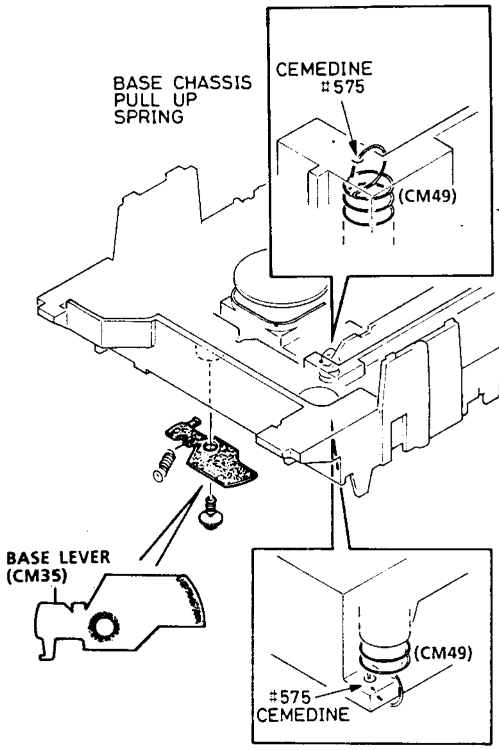

COMPUTER REC
WIDE CLOCK INTRO RANDOM OFF SIDE A
SLEEP
WAKE UP
LEVEL
FM 1 2
MW
LW AM
ON SIDE B
kHz AM
MHz PM
a
b
c
d
e
f
g
h
1
2
3
4
5
6
7
8
9
TIMER REC DISC ST TRACK AUTO MONO FADE TIME EDIT
REPEAT
PROG. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
ONE ALL CONT

FIGURE 1 : LCD (LIQUID CRYSTAL DISPLAY)

MECHANISM REMOVAL (CD)

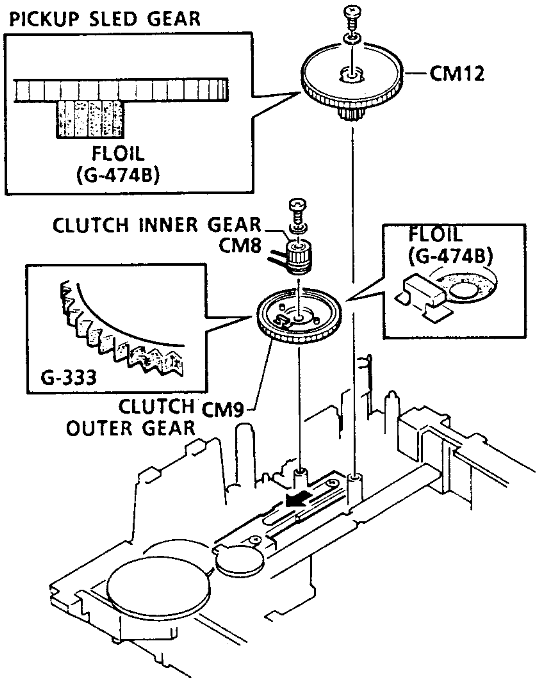
(4) Lubricating the base lever

Apply grease (FLOIL G-474B) to the ▩ area in the figure.


BASE CHASSIS PULL UP SPRING
CEMEDINE #575
(CM49)
BASE LEVER (CM35)
(CM49)
#575 CEMEDINE

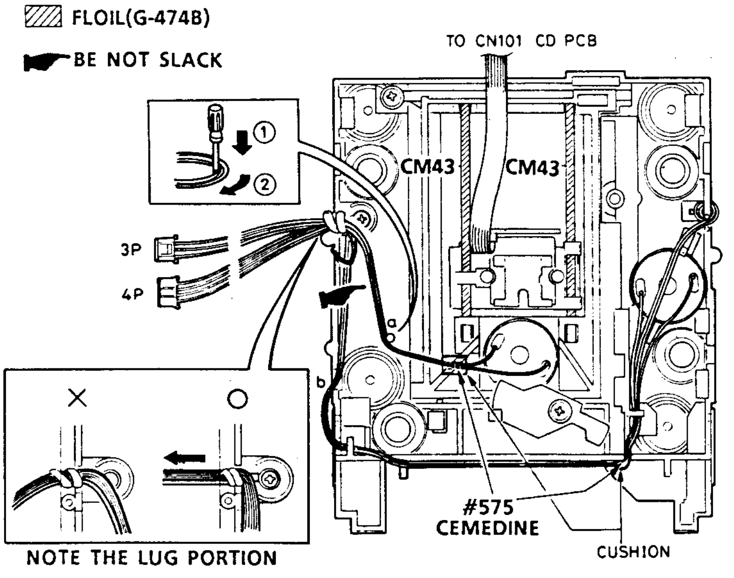
(5) Lubricating the pickup sled gear and clutch gear

1) Apply grease (FLOIL G-474B) around the entire circumference of the lower gear of the pickup sled gear (CM12), as shown in the figure (▩ area).
2) Apply grease (G-333) around the entire circumference of the outer clutch gear (CM9).
3) Apply grease (FLOIL G-474B) to the ▩ part of the outer clutch gear (CM9) where it makes contact with the inner clutch gear (CM8).


PICKUP SLED GEAR
FLOIL (G-474B)
CM12
CLUTCH INNER GEAR CM8
FLOIL (G-474B)
G-333
CLUTCH OUTER GEAR CM9

(6) Arranging and securing the leads

1) As shown in the figure, set the pickup (CM52) at a position on the innermost circumference of the compact disc, and pass the leads from the pickup (CM52) and spindle motor (CM48) through pin (a) of the chassis (CM39). Arrange the leads from the loading/sled motor (CM38) and sensor switch (micro switch) (CM26) by passing them through point (b) in the chassis (CM39). After securing the leads with the lug (CM41), check that the pickup (CM52) moves smoothly without the leads interfering with its movement.
2) If no problems arise in the ① check, secure the points shown in the figure using a bonding agent (Cemedine #575).


▨ FLOIL(G-474B)
BE NOT SLACK
TO CN101 CD PCB
①
②
CM43
CM43
3P
4P
a
b
X
O
#575 CEMEDINE
CUSHION
NOTE THE LUG PORTION

SERVICE MODE

4. Checking LCD connections

- Enter this mode by pressing the OPEN/CLOSE key during the service mode entry state. (See note.)
- The entire LCD goes out once this mode is entered.
- In this mode, one segment of the LCD lights each time the OPEN/CLOSE key is pressed.
- Press the SET/CLEAR key to exit this mode and return to the normal mode.

5. System connector checking mode

- Enter this mode by pressing the BAND key during the service mode entry state.
- Before entering this mode, connect a jig at the beginning of the system connector cord as shown in Figure 2.
- In this mode, check the signal connections shown in Table 2 for the set's CT unit and system connector cord.
- The results of the checking of connections appear on the LCD as shown in Table 2.
- Press the SET/CLEAR key to release the system connector checking mode and return to the normal mode.

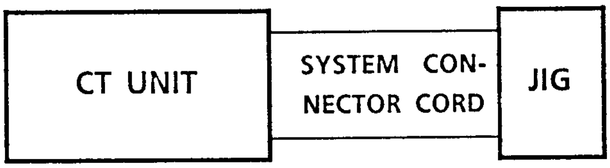


FIGURE 2 : CONNECTION DURING THE SYSTEM CONNECTOR CHECKING MODE

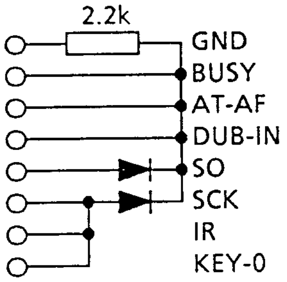


FIGURE 3 : CIRCUIT DIAGRAM OF THE CONNECTOR CHECKING JIG

STATE	DISPLAY
SO is N.G.	0
SCK is N.G.	1
DUB-IN is N.G.	2
AT-AF is N.G.	3
BUSY is N.G.	4
IR is N.G.	5
KEY-0 is N.G.	6
All OK	-

Note: : With the D series, the system connector checking mode cannot be entered when the SCK(AD unit) connection is defective.

TABLE 2 : DISPLAYS DURING SYSTEM CONNECTOR CHECKING

6. CD tracking balance adjusting mode

- Enter this mode by pressing the PLAY/PAUSE key during the service mode entry state.
- If the power is off when this mode is entered, the power automatically comes on.
- In this mode, the tracking balance adjustment state (tracking is off) is automatically entered after the tray is completely closed. If the PLAY key is pressed in this state, the tracking servo is turned on and playing is begun at the present position. Therefore, the readout on the display at the time playing is begun indicates the initial position of the pickup (i.e. the position of the limit switch).
- In this mode, the tracking balance adjustment state can be entered by pressing the MEMORY key during playing. Pressing the PLAY key in this state turns on the tracking servo and causes playing to begin.
- Turning off the power releases the CD tracking balance adjusting mode.

7. CD operation display mode

- Enter this mode by pressing the STOP key during the service mode entry state.
- If the power is off when this mode is entered, the power automatically comes on.

SERVICE MODE

- In this mode, when CD function are used, displays like those shown in Table 3 (which represent CD operations different than normally displayed) appear in the LCD track number display.
- In this mode, the calendar numbers shown in Table 4 come on when an error occurs in CD operations, at which time the track number and calendar displays become fixed at their current readouts. To release these fixed displays, press the STOP key while operations are stopped.
- This mode is released when the power is turned off.

DISPLAY	OPERATION
00	Focus search has been begun
01	Focus search has been begun
02	Waiting for focusing
03	Focusing
04	Spindle kick is in progress
05	Both CLV and tracking are ON
06	Both CLV and tracking are ON
0-	Focus search has been completed (success, failure)
20	Tray closing has begun
21	Tray closing is in progress
22	Pick return (internal direction) is in progress
23	Pick return (external direction) is in progress
2-	Tray closing (pick return) has been completed
30	Spindle braking has begun
31	Spindle braking is in progress
32	Pick return is in progress
3-	Spindle braking and pick return have been completed
40	Fast forwarding is in progress
41	Rewinding is in progress
50	Playing has begun
51	Playing is in progress
52	Playing is in progress (skip return operation)
60	TOC reading has been begun
61	TOC reading is in progress

DISPLAY	OPERATION
62	TOC reading is in progress
6-	TOC reading has been completed (success/failure)
70	L-point access has been begun
71	L-point access (REV64 track jump)
72	L-point access (FWD64 track jump)
73	L-point access (REV16 track jump)
74	L-point access (FWD16 track jump)
75	L-point access (REV1 track jump)
76	L-point access has been completed
80	Pausing has begun
83	Pause (REV16 track jump)
84	Pause (FWD16 track jump)
85	Pause (REV1 track jump)
86	Pause (trace)
90	Music access has begun
91	Music access (high-speed access has begun)
92	Music access (high-speed access is in progress)
93	Music access (high-speed access has been completed)
94	Music access (high-speed access has been completed)
95	Music access (high-speed access has been completed)
96	Music access (REV64 track jump)
97	Music access (FWD64 track jump)
98	Music access (REV16 track jump)
99	Music access (FWD16 track jump)
9-	Music access (final stage)

TABLE 3 : DISPLAYS DURING THE CD OPERATION MODE

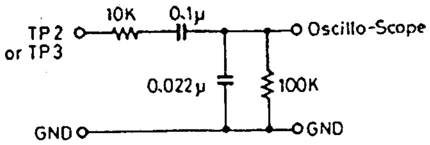
NUMBER	STATE OF CD ERROR
1	Focusing is not possible in focus search.
2	The subcode is not input during disc startup.
3	TOC cannot be read.
4	The focus was lost while the servo was on (during playing, etc.).
5	The subcode is not input while the servo is on (during playing, etc.).
6	The tray does not open completely.
7	The tray does not close completely.

TABLE 4 : DISPLAY OF CD ERRORS

CD ADJUSTMENT

Electrical Adjustment

So far we have presented explanations regarding compact disc player handling, notes prior to repair, handling the pick-up and disassembly of the unit. Be sure to carefully read these instructions before making any adjustments.



BAND PASS FILTER

Preparations for Adjustments

Measuring instruments, tools and filter

(1) Test disc.: YEDS 18 (Sony)
(2) Oscilloscope: SS5711 (10MHz or dual phenomenon)
    or Memoryscope: DSS6521 (Storagescope)
(3) Digital voltmeter (Input impedance 1M ohm or more)
(4) Oscillator (400Hz, 300mV RMS)
(5) Frequency Counter (5MHz; or more)
(6) Screw drivers (non-metalic) for adjustments
(7) Band Pass Filter
(8) AC Voltage Meter

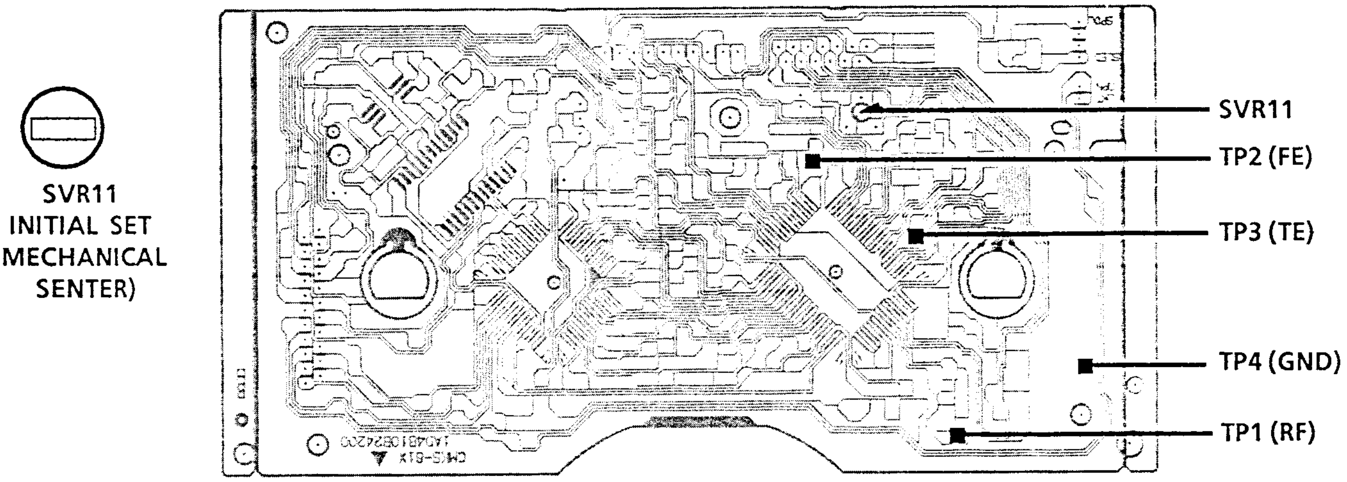
Notes: a. The adjustments can be using the equipment produced by other manufactures provided that the performance of that equipment corresponds to that of the above listed models.

b. Use a 10 : 1 probe for observing signals on the oscilloscope and storage scope.

c. Test disc is subject change without notice.

1. Initial set

Set the SVR11 at its initial position of adjustment controls as shown in figure below.

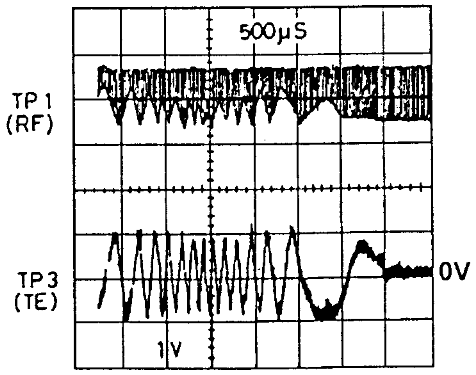


SVR11
INITIAL SET
(MECHANICAL
SENTER)

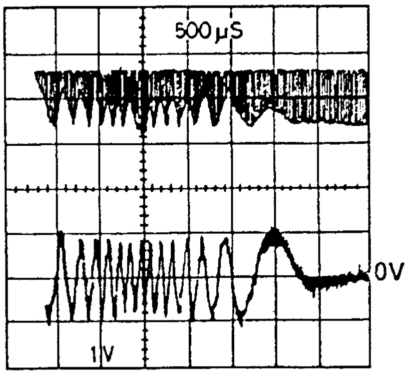
2. Tracking Balance Adjustment (SVR11)

1. Connect the oscilloscope to TP3 (TE) and TP4 (GND.).
2. Turn on the power of the unit. Insert test disc.
3. Play-back the test disc.
4. Continuously press the forward search ▸▸ or backward-search ▸▸ button to do it
5. Adjust SVR11 so that the TE (Tracking Error) signal waveform of TP3 on the oscilloscope is vertically symmetrical relative to 0V. (See figure right side)

*If the adjustment is imperfect, become run away the sled motor (pick-up sending motor), inferior playability.



◀◀SEARCH

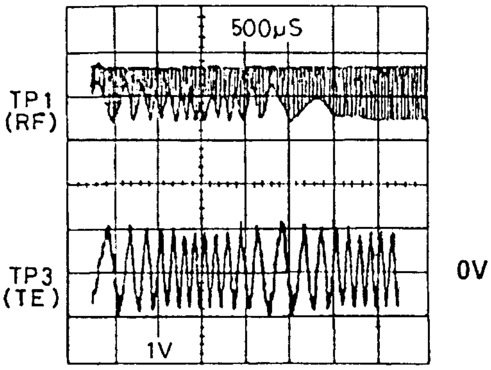


SEARCH ▶▶

CD ADJUSTMENT

2. Other Adjustment of Tracking Balance (SVR11)

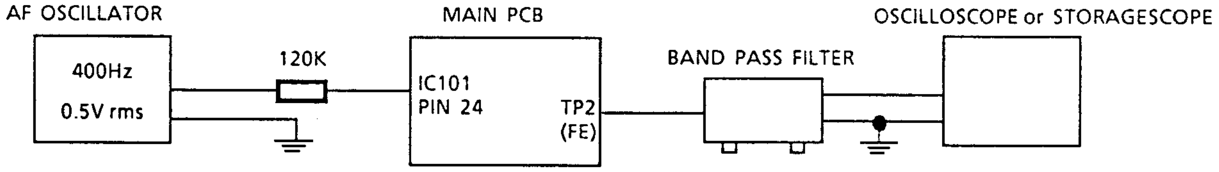
1. Set the service mode(CD tracking balance adjusting mode).
   - Enter this mode by pressing the PLAY/PAUSE key during the service mode entry state. Pressing the PLAY / Pause key in this state turns on the tracking servo and causes playing to begin. (See service mode)
2. Connect the oscilloscope to TP3 (TE) and TP4 (GND).
3. Adjust SVR11 so that the TE (Traverse) signal waveform of TP3 on the oscilloscope is vertically symmetrical relative to 0V. Or may adjust SVR11 so that the DC voltage : (Peak Hold Level) - (Bottom Hold Level) of the traverse signal is 0V. (See figure right side)
4. If it were not for obtain waveform at the right figure, repeat item 2-1 ~2-3.



3. Focus Gain Confirmation

1. Connect the storage scope to TP2 (F.E : Focus Error) through the Band pass filter. (See BPF Figure)
2. Turn on the power of the unit.
3. Play-back the test disc.
4. Set the output of AF oscillator to 400Hz, 0.5V rms and connect to pin 24 (IC101) through the resistor : 120k ohms.
5. Confirm so that the voltage of the F.E signal waveform on the storage scope is 0.5V p-p, ±3db by through BPF.

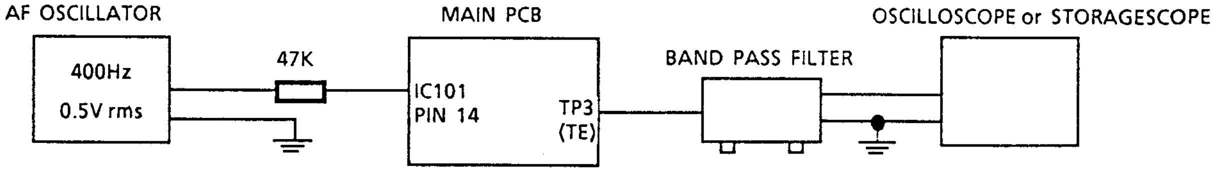
*If this CONFIRMATION is imperfect, become weak the mechanical shock, inferior playability, and can not playback the Disc.


AF OSCILLATOR
400Hz
0.5V rms
120K
MAIN PCB
IC101
PIN 24
TP2
(FE)
BAND PASS FILTER
OSCILLOSCOPE or STORAGESCOPE

4. Tracking Gain Confirmation

1. Connect the storage scope to TP3 (T.E) through the Band pass filter. (See BPF Figure).
2. Turn on the power of the unit.
3. playback the test disc.
4. Set the output of AF oscillator to 400Hz, 0.5V rms and connect to pin 14 (IC101) through resistor 47k ohms.
5. Confirm so that the voltage of T.E signal waveform on the storage scope is 0.5V p-p, ±3db by through BPF.

*If this CONFIRMATION is imperfect, become weak the mechanical shock, inferior playability, and can not playback the Disc.


AF OSCILLATOR
400Hz
0.5V rms
47K
MAIN PCB
IC101
PIN 14
TP3
(TE)
BAND PASS FILTER
OSCILLOSCOPE or STORAGESCOPE

PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.

N.S.P : Not avairable as service parts.

CABINET

Ref. No.	Part No.	Description
1	614 244 2746	ASSY,PANEL,FRONT
2	614 239 0924	ASSY,CABINET,TOP
3	614 244 5433	PANEL,REAR
4	614 239 0931	ASSY,CABINET,BOTTOM
5	614 244 2920	ESCUTCHEON,CD TRAY FRONT
6	614 244 4320	BUTTON,TIMER ETC.
7	614 244 4320	BUTTON,BAND ETC.
8	614 244 3224	BUTTON,TUN,PRESET
9	614 243 9128	BUTTON,CD ETC.
10	614 244 3200	BUTTON,CD SKIP/SEARCH
11	614 244 3194	BUTTON,CD OPEN/CLOSE
12	614 244 4030	BUTTON,CD STOP·PLAY

CHASSIS

Ref. No.	Part No.	Description
31	614 238 1694	TABLE,LOADING
32	614 239 1228	MOUNT-M,CD MECHA
33	614 239 1198	BRACKET-E,TU PCB
34	614 239 1204	BRACKET-E,CD PCB
35	614 239 1211	MOUNT-E,TU PCB
36	614 195 6978	RUBBER CUSHION,MECHA FLOAT
37	412 003 1708	SPECIAL SCREW,MECHA FIX
	614 191 3698	LABEL,LASER BEAM CAUTION
	614 232 0464	LABEL,SAFETY,LASER BEAM

FIXING PARTS

Ref. No.	Part No.	Description
Y1	411 022 8408	SCR S-TPG PAN 2X8
T2	411 021 1202	SCR S-TPG BIN 2X8
Y3	411 021 3107	SCR S-TPG BIN 2.6X8
Y4	411 021 1806	SCR S-TPG BIN 2.6X10
Y5	411 021 6405	SCR S-TPG BIN 3X8
Y6	411 021 6603	SCR S-TPG BIN 3X8
Y7	411 021 3503	SCR S-TPG BIN 3X10

ELECTRIC PARTS

Ref. No.	Part No.	Description
51	614 243 1481	CORD,CD MECHA-MICON PCB

TUNER P.C.BOARD ASSY

Ref. No.	Part No.	Description
71	614 241 9717	ASSY,PCB,TU MAIN
C2152	403 082 0201	POLYPRO 470P J 100V
C2155	403 082 2205	POLYPRO 560P J 100V
C2304	403 080 5000	POLYPRO 1000P J 100V
C2458	403 106 1603	NP-ELECT 1U Q 50V
CF201	614 240 2917	FILTER,CERAMIC,10.7MHZ,FM
CF202	614 240 2917	FILTER,CERAMIC,10.7MHZ,FM
CF204	614 211 2939	FILTER,459KHZ,AM
CF205	614 030 7443	I.F FILTER,459KHZ,AM
CN201	614 210 2688	TERMINAL,(DIN)+PUSH 2P, FM ANT
CN241	614 225 3502	PLUG,14P,TO FRONT PCB
CT251	614 007 6332	TRIMMER,30PF,GR,LW
CT252	614 007 6356	TRIMMER,11PF,WH,MW
D2151	407 091 5004	VARACTOR DI SVC321SPA-C-2
D2152	407 091 5004	VARACTOR DI SVC321SPA-C-2
D2201	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D2301	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D2302	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
IC201	409 195 3108	IC LA1265-AUD
IC202	409 016 9500	IC LA3361
IC203	409 066 7600	IC LM7001
L2151	614 216 1029	TRANS,RF,LW
L2152	614 032 8059	ANT COIL,MW
L2153	614 239 7268	TRANS,OSC,MW
L2154	614 239 7275	TRANS,OSC,LW
L2201	614 028 4379	FILTER,CHOKE,1MH,AM
L2451	614 028 4256	FILTER,CHOKE,100UH,VDD
Q2105	405 012 5904	TR 2SC1923-Y
Q2131	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2152	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2153	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2154	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2155	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2156	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2157	405 114 8407	TR 2SK193-LL
or	405 114 8506	TR 2SK193-ML
Q2158	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2201	405 018 7902	TR 2SC380TM-O
Q2202	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2203	405 001 7001	TR 2SA1015-GR
Q2301	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2302	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2351	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2352	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS

PARTS LIST

Ref. No.	Part No.	Description
Q2354	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2355	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2451	405 114 1804	TR 2SC1815(L)-GR
or	405 114 1903	TR 2SC1815(L)-Y
Q2452	405 114 1804	TR 2SC1815(L)-GR
or	405 114 1903	TR 2SC1815(L)-Y
Q2461	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2701	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2702	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2801	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2802	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
R2465	⚠ 401 018 1209	CARBON 33 JB 1/4W
SVR23	614 223 1906	POTENTIOMETER,10K(B),VCO
or	614 204 1901	SEMI-FIXED V.R,10K(B),VCO
TU201	614 241 7447	TUNER,RF-END,FM
T2202	614 030 4114	I.F.T,10.7MHZ,FM
T2203	614 029 3906	MX COIL,LPF
T2701	614 027 7845	COIL,CHOKE,TRAP
T2801	614 027 7845	COIL,CHOKE,TRAP
X2451	614 240 1118	RESONATOR,7.2MHZ,FOR IC203
or	614 234 0486	RESONATOR,7.2MHZ,FOR IC203

CD MICON P.C.BOARD ASSY

Ref. No.	Part No.	Description
72	614 239 2065	ASSY,PCB, CD MICON
C1301	403 196 9602	DL-ELECT 0.047F Z 5.5V,FOR MICON BACKUP
C1302	403 135 3302	ELECT 1000U M 6.3V
C1522	403 056 7908	POLYESTER 1000P K 50V
C1523	403 056 7908	POLYESTER 1000P K 50V
C1608	403 043 3104	ELECT 2200U M 16V, FOR +9V
C1609	403 042 6205	ELECT 1000U M 16V, FOR -9V
CN131	614 225 6459	PLUG,13P,CD-FRONT
CN132	614 225 6381	PLUG,6P,CD-FRONT
CN141	614 241 6143	SOCKET,22P,CD-MECHA
or	614 243 3218	SOCKET,22P,CD-MECHA
CN161	614 239 5455	SOCKET,19P,CT-DA UNIT
D1301	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
D1302	407 050 1801	ZENER DIODE GZA3.9Z
or	407 053 5202	ZENER DIODE MTZ3.9B
D1303	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
D1304	407 005 4505	DIODE DS442X, FOR IR
or	407 013 7109	DIODE 1S2473, FOR IR
D1601	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1602	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1603	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1604	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1605	407 013 7109	DIODE 1S2473
or	407 005 4505	DIODE DS442X
IC103	410 146 1104	IC UPD75116GF-F56-3BE

Ref. No.	Part No.	Description
IC107	⚠ 409 189 4203	IC M5278D05
IC108	409 040 1105	IC NJM79L05A
IC109	409 039 9204	IC NJM78L05A
L1301	614 028 4133	FILTER,CHOKE,10UH
L1501	614 212 3171	INDUCTOR,FERITE,CD OUT L-CH
L1502	614 212 3171	INDUCTOR,FERITE,CD OUT R-CH
Q1301	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
or	405 002 1305	TR 2SA1048-Y
Q1302	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
or	405 014 5209	TR 2SC2458-GR
Q1303	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
or	405 002 1305	TR 2SA1048-Y
Q1304	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
or	405 014 5209	TR 2SC2458-GR
Q1305	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
or	405 002 1305	TR 2SA1048-Y
Q1500	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
or	405 014 5209	TR 2SC2458-GR
Q1501	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
or	405 014 5209	TR 2SC2458-GR
S1301	614 221 8327	SWITCH,TACT,RESET
X1301	614 229 3300	RESONATOR,XTAL,4.19MHZ

CD MAIN P.C.BOARD ASSY

Ref. No.	Part No.	Description
73	614 239 2072	ASSY,PCB,CD MECHA
CN101	614 227 7935	SOCKET,13P,FOR PICKUP(FFC)
CN102	614 017 3833	PLUG,4P,FOR MOTOR
CN103	614 017 3826	PLUG,3P,FOR SWITCH
CN104	614 035 2061	SOCKET,22P,TO CD MICON(FFC)
or	614 243 3225	SOCKET,22P,TO CD MICON(FFC)
IC101	409 245 4802	IC LA9210M
IC102	⚠ 409 247 0000	IC LA6524
IC104	409 248 8708	IC LC7866E
IC105	409 278 0109	IC SM5870DS
IC106	409 241 5506	IC XRA15218F
or	409 192 7109	IC BA15218F
Q101	405 002 0308	TR 2SA1037K-R
Q102	405 014 4509	TR 2SC2412K-R
Q103	405 014 4509	TR 2SC2412K-R
SVR11	614 223 1906	POTENTIOMETER,10K(B),T.BAL
TP101	614 227 6839	TERMINAL,TEST POINT,RF
TP102	614 227 6839	TERMINAL,TEST POINT,FE
TP103	614 227 6839	TERMINAL,TEST POINT,TE
TP104	614 227 6839	TERMINAL,TEST POINT,GND
TP105	614 227 6839	TERMINAL,TEST POINT,PLL
X101	614 236 1818	RESONATOR,16.93MHZ

FRONT P.C.BOARD ASSY

Ref. No.	Part No.	Description
74	614 239 2058	ASSY,PCB,FRONT
	614 241 9151	REFLECTOR,LCD
	614 238 8037	SHEET,LCD
	411 021 3107	SCR S-TPG BIN 2.6X8
CN251	614 221 9133	SOCKET,13P,CD MICON PCB
CN252	614 221 9065	SOCKET,6P,CD MICON PCB

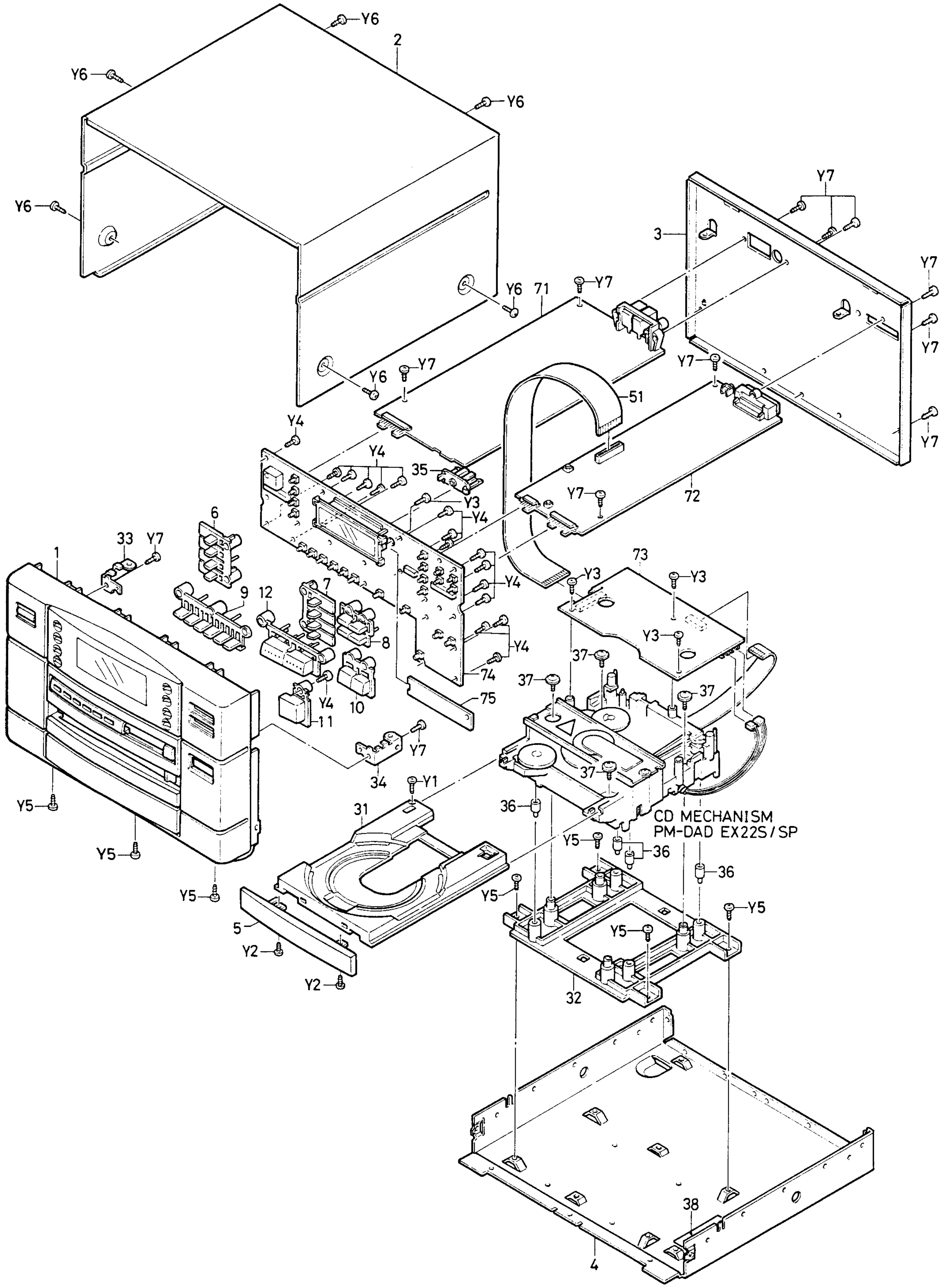
PARTS LIST

Ref. No.	Part No.	Description
CN253	614 226 2481	SOCKET,14P,TUNER PCB
D2501	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473
or	407 005 4505	DIODE DS442X
D2502	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473
or	407 005 4505	DIODE DS442X
IC251	410 146 1203	IC UPD75306GF-225-3B9
L2501	614 028 4256	FILTER,CHOKE,100UH
LCD21	614 238 0284	LCD(LIQUID CRYSTAL DISPLAY)
S2511	614 220 5563	SWITCH,TACT,OPEN/CLOSE
S2512	614 220 5563	SWITCH,TACT,PLAY/PAUSE
S2513	614 220 5563	SWIICH,TACT,STOP
S2514	614 220 5563	SWITCH,TACT,REPEAT
S2515	614 220 5563	SWITCH,TACT,CD MEMORY
S2516	614 220 5563	SWITCH,TACT,C.REC
S2517	614 220 5563	SWITCH,TACT,EDIT
S2518	614 220 5563	SWITCH,TACT,TIME/FADE
S2521	614 220 5563	SWITCH,TACT,CLOCK
S2522	614 220 5563	SWITCH,TACT,SLEEP
S2523	614 220 5563	SWITCH,TACT,WAKE UP
S2524	614 220 5563	SWITCH,TACT,TIMER
S2525	614 220 5563	SWITCH,TACT,PSP DOWN
S2526	614 220 5563	SWITCH,TACT,FWD
S2527	614 220 5563	SWITCH,TACT,BACK
S2528	614 220 5563	SWITCH,TACT,RANDOM
S2531	614 220 5563	SWITCH,TACT,BAND
S2532	614 220 5563	SWITCH,TACT,CLEAR
S2533	614 220 5563	SWITCH,TACT,TUN MEMORY
S2534	614 220 5563	SWITCH,TACT,MODE
S2535	614 220 5563	SWITCH,TACT,PST UP
S2536	614 220 5563	SWITCH,TACT,TUN UP
S2537	614 220 5563	SWITCH,TACT,TUN DOWN
S2540	407 152 1303	PHOTO DI SPS-422-1,IR
or	614 237 8724	OPTO CONNECTOR,IR RESEIVER
X2501	614 215 5561	RESONATOR,CERAMIC,4.19MHZ,F

LED (LCD BACK LIGHT) P.C.BOARD ASSY

Ref. No.	Part No.	Description
74	614 239 9095	ASSY,PCB,LED
CN562	614 242 9488	ASSY,CONNECTOR-S,2P, FROM FRONT
D5551	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5552	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5553	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5554	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5555	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5556	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5557	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5558	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5559	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5560	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5561	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5562	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5563	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5564	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5565	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5566	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5567	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5568	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5569	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5570	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL

EXPLODED VIEW (TUNER & CD UNIT)


Y6
2
Y6
Y6
Y6
Y7
3
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Y7
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Y4
Y4
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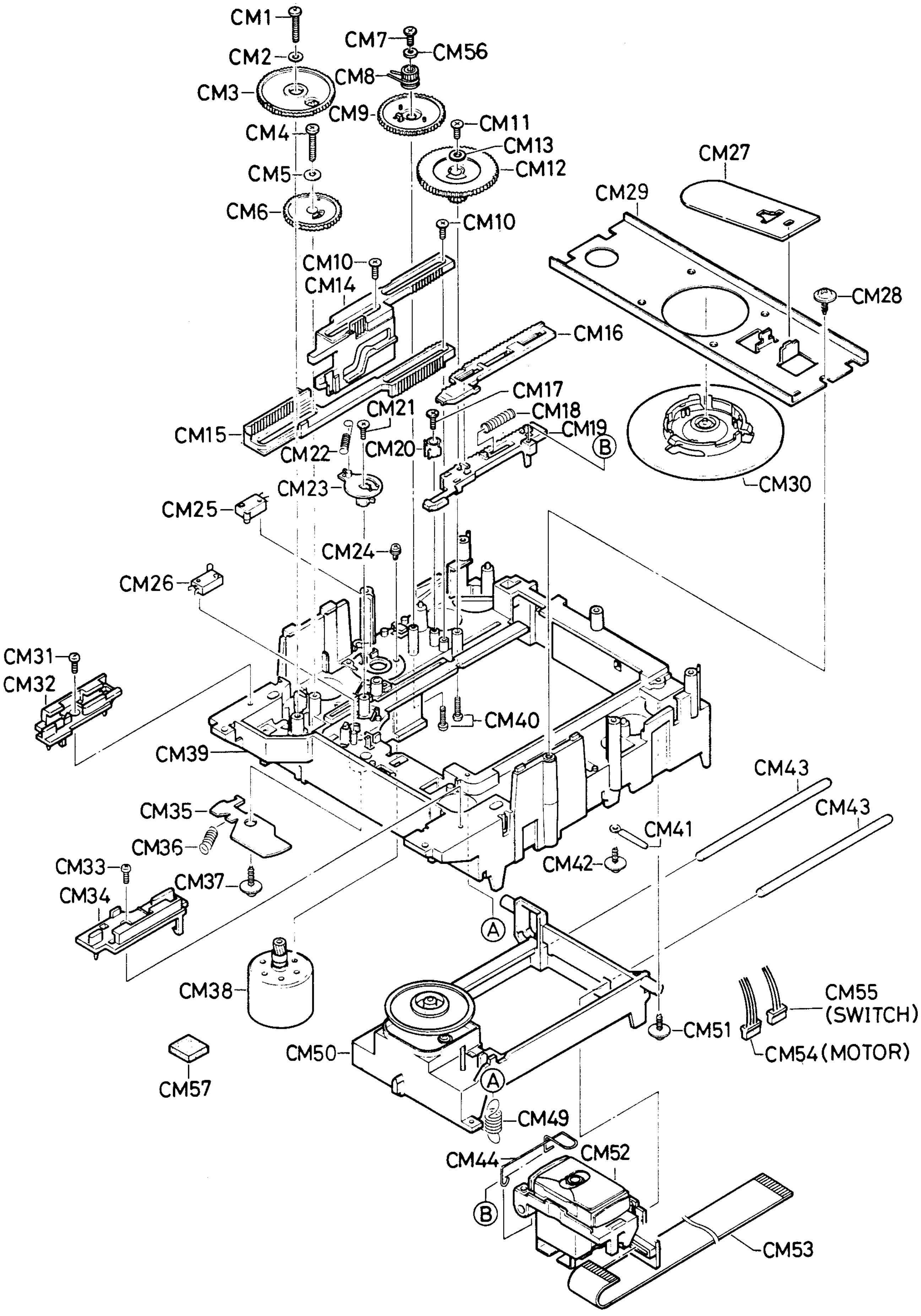
Y4
Y7
72
6
33
Y7
1
Y4
73
Y3
Y3
9
12
7
8
Y3
Y4
37
37
37
74
Y4
10
11
75
Y7
34
Y1
37
36
Y5
31
CD MECHANISM
PM-DAD EX22S/SP
Y5
36
Y5
36
Y5
Y5
Y5
5
Y2
Y5
Y2
32
38
4

EXPLODED VIEW (CD MECHANISM)


CM1
CM7
CM56
CM2
CM8
CM3
CM9
CM11
CM4
CM13
CM12
CM27
CM5
CM29
CM6
CM10
CM10
CM14
CM28
CM16
CM17
CM21
CM18
CM19
B
CM15
CM22
CM20
CM23
CM30
CM25
CM24
CM26
CM31
CM32
CM40
CM39
CM43
CM43
CM35
CM41
CM36
CM42
CM33
CM37
CM34
A
CM38
CM55
(SWITCH)
CM51
CM50
CM54(MOTOR)
CM57
A
CM49
CM44
CM52
B
CM53

PARTS LIST (CD MECHANISM)

CD MECHANISM (PM-DAD EX22S / SP)

Ref. No.	Part No.	Description
CM01	411 119 8908	SCR S-TPG PAN 2X14,GEAR FIX
CM02	411 087 4704	WASHER V 2X6X0.4,GEAR FIX
CM03	614 224 2056	GEAR TRAY MOVE
CM04	411 119 8908	SCR S-TPG PAN 2X14,GEAR FIX
CM05	411 087 4704	WASHER V 2X6X0.4,GEAR FIX
CM06	614 224 2049	GEAR,TRAY
CM07	411 152 4301	SCR S-TPG PAN PCS 1.7X6
CM08	614 237 9172	ASSY,GEAR,CLUTCH INNER
CM09	614 238 4794	GEAR,CLUTCH OUTER
or	614 243 6455	GEAR,CLUTCH OUTER
CM10	412 031 2104	SPECIAL SCREW,SLIDE FIX
CM11	411 152 4301	SCR S-TPG PAN PCS 1.7X6
CM12	614 224 1998	GEAR,PICK SLED
CM13	412 045 4101	SPECIAL WASHER,PICK GEAR
CM14	614 233 6311	SLIDE,BASE UP/DOWN
CM15	614 224 2094	SLIDE,TRAY
CM16	614 224 2018	GEAR,PICK RACK UPPER
CM17	412 031 2104	SPECIAL SCREW,GEAR FIX
CM18	614 225 0884	SPRING,COMP,RACK BACK
CM19	614 224 2001	GEAR,PICK RACK LOWER
CM20	614 224 2032	GEAR,BASE/TRAY TIMING
CM21	412 031 2104	SPECIAL SCREW,GEAR FIX
CM22	614 242 8665	SPRING,TENS,GEAR TENSION
CM23	614 237 8304	GEAR,TIMING
CM24	411 044 7205	SCR PAN+SW 2X4,SLED MOTOR
CM25	614 018 9223	SWITCH,LIMIT
CM26	614 018 9223	SWITCH,TRAY OPEN
CM27	614 202 5277	SPRING PLATE,CHUCKING
CM28	411 020 9803	SCR S-TPG BRZ+FLG 3X6
CM29	614 224 1967	BRACKET-M,CHUCKING
CM30	614 243 2594	ASSY,PULLEY
CM31	411 022 7807	SCR S-TPG PAN 2X6,BRACKET
CM32	614 224 3176	BRACKET-M,TRAY GUIDE(L)
CM33	411 022 7807	SCR S-TPG PAN 2X6,BRACKET
CM34	614 224 3183	BRACKET-M,TRAY GUIDE(R)
CM35	614 233 6304	LEVER,BASE
CM36	614 226 5536	SPRING,COMP,BASE LEVER MOVE
CM37	411 020 9902	SCR S-TPG BRZ+FLG 3X8,LEVER
CM38	614 225 4820	ASSY,MOTOR,LOADING/SLED
CM39	614 241 5764	CHASSIS,LOADING CHASSIS
or	614 242 8641	CHASSIS,LOADING CHASSIS
CM40	412 031 2104	SPECIAL SCREW,REINFORCEMENT
CM41	614 129 9136	LUG,WIRE DRESS
CM42	411 021 5705	SCR S-TPG BIN 3X6,LUG FIX
CM43	614 230 0411	SHAFT,PICK RAIL
CM44	614 229 4529	SPRING,WIRE,PICK BACK
CM49	614 228 5084	SPRING,TENS,BASE PULL UP
CM50	614 247 1950	ASSY,CHASSIS,BASE CHASSIS, WITH SPINDOLE MOTOR + TURNTABLE,SERVICE ONLY
CM51	411 020 9803	SCR S-TPG BRZ+FLG 3X6
CM52	614 239 1303	PICKUP,LASER,PLASTIC (SF-P1PS)
or	614 231 6047	PICKUP,LASER,ALMINUM (SF-90PS)
CM53	614 232 2062	CORD,13P,PICK UP
CM54	614 246 2959	ASSY,CONNECTOR-S,4P,
or	614 246 2966	SPINDLE/SLED MOTOR
CM55	614 246 2973	ASSY,CONNECTOR-S,3P,
or	614 246 2980	LIMIT/TRAY OPEN SWITCH
CM56	412 014 2800	SPECIAL WASHER,GEAR FIX
CM57	614 125 6528	CUSHION,MOTOR LEAD FIX

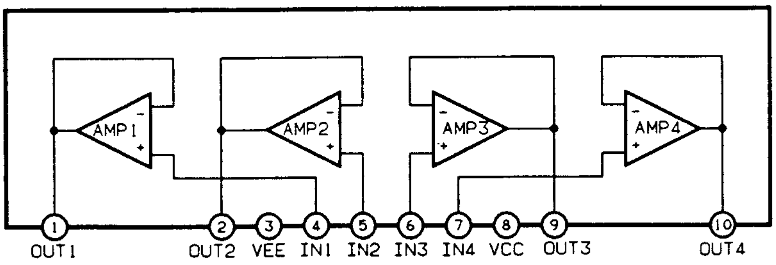
IC BLOCK DIAGRAM (CD)

IC101 LA9210M (Servo Signal Processor)

No.	PIN NAME	I/O	FUNCTION
1	NC		Non Connection
2	VEE		-5V
3	E	I	IV Convert Input (from Photo Diode E)
4	F	I	IV Convert Input (from Photo diode F)
5	FN	I	IV Converter Input
6	FO	O	IV Converter Output
7	TEAO	O	Tracking Error Amplifier Output
8	VREF2	I	Reference Voltage 2
9	VREF3	I	Reference Voltage 3
10	TES1	I	Test Input
11	ATSC	I	+ Input of Anti Shock Detect Amplifier
12	ATSC-	I	- Input of Anti Shock Detect Amplifier
13	TPA+	I	- Input of Tracking Pulse Amplifier
14	TPA-	I	+ Input of Tracking Pulse Amplifier
15	TPAO	O	Tracking Pulse Amplifier Output
16	TOFS	I	Input for Tracking Offset
17	THDS	I	Tracking Servo Hold Switch
18	TD+	I	Add the Track Jump Pulse
19	JPO	O	Track Jump Pulse Amplifier Output
20	SLEQ	I	Input for Sled Servo Equalizer
21	TDO	O	Tracking Actuator Coil Driver Output
22	FDO	O	Focus Actuator Coil Driver Output
23	FD-	I	Input for Focus Actuator Coil Driver
24	FSW	I	Focus Servo Switch
25	NC		Non Connection
26	FEAO	O	Focus Error Amplifier Output
27	FE+	I	+ Input of Focus Error Amplifier
28	FD+	I	+ Input of Focus Actuator Coil Driver
29	SPO	O	CLV Error Amplifier Output
30	SPO-	I	Input for Spindle Motor Driver
31	SPDO	O	Spindle Motor Driver Output
32	VEE		-5V
33	SLDO	O	Sled Motor Driver Output
34	SL-	I	- Input of Sled Motor Driver
35	SL+	I	+ Input of Sled Motor Driver
36	VCC		+5V
37	SLSW	I	Sled Servo Switch
38	DEFO	O	Defect Signal Output
39	2FREQ	I	Input for VCO
40	DRF	O	Focusing Servo ON : High Level

No.	PIN NAME	I/O	FUNCTION
41	NC		Non Connection
42	JP-	I	- Input of Track Jump Pulse Amplifier
43	JP+	I	+ Input of Track Jump Pulse Amplifier
44	THLD	I	Hold of Output Voltage of Tracking Servo
45	TGL	I	Tracking Gain Low
46	TOFF	I	Input For Off the Tracking Servo
47	TES	O	Tracking Error Signal
48	HFL	O	Detect Track Signal
49	FZD	O	Detect S Carve of Focus Error Signal
50	FOCS	I	Input For Off the Focus Servo
51	CLV-	I	- Input of CLV Error Amplifier
52	CLV+	I	+ Input of CLV Error Amplifier
53	SLCO	O	Slice Level Control Amplifier Output
54	$\overline{\text{EFMO}}$	I	$\overline{\text{EFMO}}$ (RF) Signal
55	AI	I	EFMO (RF) Signal
56	VDD		+5V
57	PDO	I	+ Input of VCO Control Amplifier
58	PDO-	I	- Input of VCO Control Amplifier
59	VCOC	I	VCO Control Amplifier Output
60	VCOO	O	VCO Output
61	LF1	I	Input of Low Pass Filter
62	CLK	I	Clock
63	LASER	I	Laser Control Signal
64	66/60	I	Select of DSP LC7866/LC7860
65	NC		Non Connection
66	DF2	I	Input for Defect Pulse width Control
67	DF1	I	Input for Defect Pulse width Control
68	PH3	O	Defect Detect Timing
69	BH	I	Track Detect Timing
70	PH	I	Focus Detect Timing
71	GND		Ground
72	RF SUM	O	RF SUM Amplifier Output
73	RFS-	O	IV Converter Output
74	LDO	O	Laser Diode ON
75	LDS	I	Input of Auto Laser Power Control
76	LDC	I	Input of Auto Laser Power Control
77	VDD		+5V
78	FIN1	I	IV Convert Input (From Photo Diode A+C)
79	FIN2	I	IV Convert Input (From Photo Diode B+D)
80	VREF1	I	Reference Voltage 1

IC102 LA6524 (Dual Motor & Actuator Coil Driver)



IC BLOCK DIAGRAM (CD)

IC103 µPD75116-F56 (CD Micro Processor)

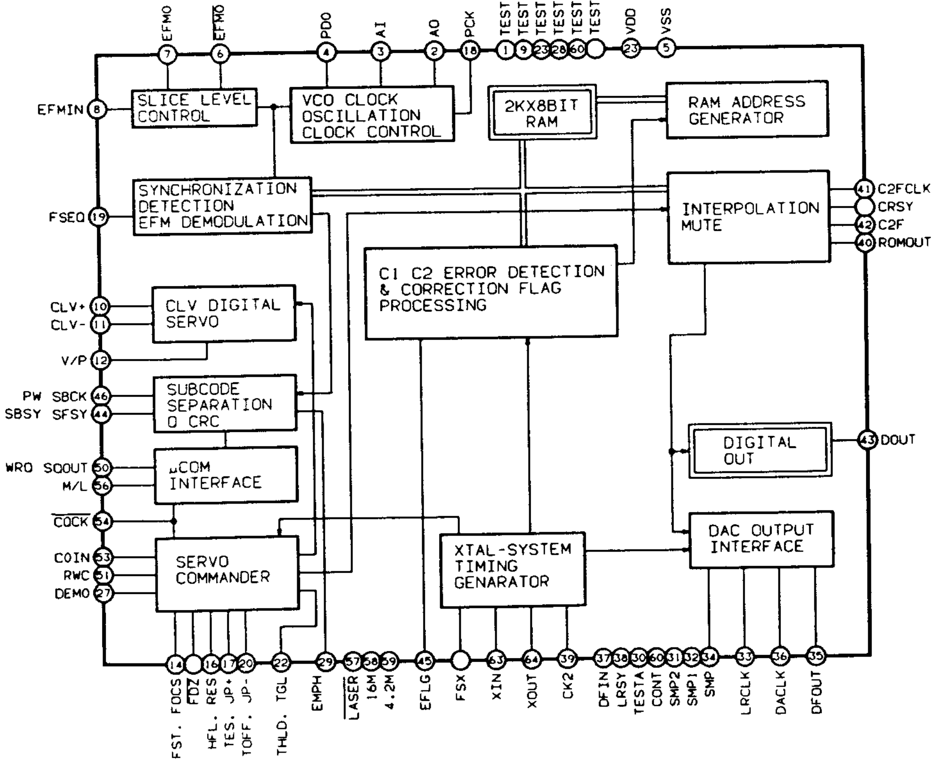
PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O
1	CD MUTE	P41	Control Signal of Analogue Muting	O
2	P CONT	P40	Control Signal of Power Supply for CD Circuit	O
3	NC	P53	Not Used (Open)	O
4	FC	P52	Function Control C Signal	O
5	FB	P51	Function Control B Signal	O
6	FA	P50	Function Control A Signal	O
7	RESET	RESET	System Reset	I
8	X2	XO	X'tal Out (4.19 MHz)	O
9	X1	XI	X'tal In (4.19 MHz)	I
10	V CHK	P63	Detection Signal of the Stoppage Failure of Electricity	I
11	V DEC O	P62	Detection Signal Out of Voltage Drop	O
12	V DEC I	P61	Detection Signal In of Voltage Drop	I
13	TU MUTE	P60	Control Signal of Tuner Muting	O
14	NC	P73	Not Used (Ground)	I
15	NC	P72	Not Used (Ground)	I
16	DUB IN	P71	Dubbing Signal	I
17	TA AF	P70	Function Signal for Tape Deck	I
18	NC	P83	Not Used (Open)	O
19	NC	P82	Not Used (Open)	O
20	CLV GAIN	P81	Select Signal for CLV (Constant Linear Velocity) Gain	O
21	AMP SO	P80	Data Out to AD Micro Processor (µPD75512)	O
22	AMP SCK	P93	Clock Out to AD Micro Processor (µPD75512)	O
23	TRAY LED	P92	CD Tray Indicator LED	O
24	SUB SO	P91	Data Out to Sub Micro Processor (µPD73508)	O
25	SUB SCK	P90	Clock Out to Sub Micro Processor (µPD73508)	O
26	VSS	VSS	Ground	
27	SUB BUSY	P13 / INT3	Busy Signal In from Sub Micro Processor (µPD73508)	I
28	AMP BUSY	P12 / INT2	Busy Signal In from AD Micro Processor (µPD75512)	I
29	WRQ	P11 / INT1	DSP (Digital Signal Processor) Interface [Sub Q Request]	I
30	IR	P10 / INT0	Infrared Ray Receiving (Remocon) Signal	I
31	KEY3	PTH03	Key Input Signal	I
32	KEY2	PTH02	Key Input Signal	I
33	KEY1	PTH01	Key Input Signal	I
34	KEY0	PTH00	Key Input Signal	I
35	NC	TI0	Not Used (Open)	
36	NC	TI1	Not Used (Open)	
37	CLOSE	P23	Control Signal of Tray Close	O
38	CLK OUT	P22 / PCL	Clock Signal for Adjustment	O
39	OPEN	P21 / PT01	Control Signal of Tray Open	O
40	RWC	P20 / PT00	DSP (Digital Signal Processor) Interface [Command Latch]	O
41	SQOUT	P03 / SI	DSP (Digital Signal Processor) Interface [Sub Q Data]	I
42	COIN	P02 / SO	DSP (Digital Signal Processor) Interface [Command Data]	O
43	CQCK	P01 / SCK	DSP (Digital Signal Processor) Interface [Clock]	O
44	DRF	P00 / INT4	DRF Signal	I
45	OPN SW	P123	Switch Detection Signal for Open End of CD Tray	I
46	LIM SW	P122	Switch Detection Signal for Limit of Pickup	I
47	NC	P121	Not Used (Ground)	I
48	NC	P120	Not Used (Ground)	I
49	NC	P133	Not Used (Ground)	I
50	NC	P132	Not Used (Ground)	I
51	SW PRE	P131	Select Signal from ON / OFF Switch for Pre Muting	I
52	SW HI AC	P130	Select Signal from ON / OFF Switch for High Speed Access	I
53	SW DAC	P143	Select Signal from ON / OFF Switch for DAC (Digital to Analogue Converter)	I
54	SW BAND	P142	Select Signal from TU / BAND or FM Switch for Remocon Function	I
55	SW PST	P141	Select Signal from PST UP or SCAN Switch for Remocon Function	I
56	SW S D	P140	Select Signal from S / D Series Switch	I
57	NC	NC	Not Connection	
58	VDD	VDD	Power Supply +5V	
59	PULL UP	P33	Power supply to Pull Up Resistors	O
60	NC	P32	Not Used (Open)	O
61	DSP RES	P31	Reset Control Signal for DSP (Digital Signal Processor)	O
62	ATT	P30	DAC (Digital to Analogue Converter) Interface [Data]	O
63	SHIFT	P43	DAC (Digital to Analogue Converter) Interface [Clock]	O
64	LATCH	P42	DAC (Digital to Analogue Converter) Interface [Latch]	O

IC BLOCK DIAGRAM (CD)

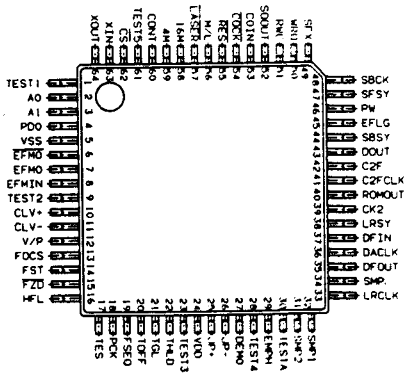
IC104 LC7866E (Digital Signal Processor)

No	PIN NAME	I / O	DESCRIPTION
1	TEST1	I	For TEST. Normal time is non connection.
2	AO	O	Input from VCO output in LA9210 .(8.6436MHz) Phase comparison output of VCO and EFM signal.
3	AI	I	
4	PDO	O	
5	VSS		GND
6	$\overline{\text{EFMO}}$	O	Negative output through amplitude limiter. Antiphase of EFMO. This signal use SLICE LEVEL CONTROL.
7	EFMO	O	Positive output through amplitude limiter. Antiphase of EFMO. This signal use SLICE LEVEL CONTROL.
8	EFMIN	I	Inputting HF signal of $1\sim2V_{P\text{-}P}$. This signal use SLICE LEVEL CONTROL.
9	TEST2	I	For TEST. Normal time is non connection.
10	CLV$^+$	O	Output for DISC MOTOR CONTROL.
11	CLV$^-$	O	Output for DISC MOTOR CONTROL.
12	V / P	O	CLV rough Servo time : Output "H" Phase control time : Output "L"
13	FOCS	O	Output "H" : Lens pull up with slowly than stop the Focus Servo. If FZD generate, it reset output of FOCS. For lead-in of Focus
14	$\overline{\text{FST}}$	O	
15	$\overline{\text{FZD}}$	I	
16	HFL	I	Comply with command of track jump, it oscillate kick Pulse, JP$^+$ & JP$^-$. It jump the prescribed number of track (1,4,16,64).
17	TES	I	Comply with command of track jump, it oscillate kick Pulse, JP$^+$ & JP$^-$. It jump the prescribed number of track (1,4,16,64).
18	PCK	O	PCK Monitor (4.3218MHz)
19	FSEQ	O	SYNC (FS of truth) detected from EFM signal = SYNC of counter : "H" (Latch Output during in 1 frame)
20	TOFF	O	Comply with command of track jump, it oscillate kick Pulse, JP$^+$ & JP$^-$. It jump the prescribed number of track (1,4,16,64).
21	TGL	O	
22	THLD	O	
23	TEST3	I	For TEST. Normal time is non connection.
24	VDD		+5V
25	JP$^+$	O	Comply with command of track jump, it oscillate kick Pulse, JP$^+$ & JP$^-$. It jump the prescribed number of track (1,4,16,64).
26	JP$^-$	O	
27	DEMO	I	For adjustment of production process. Sound on function.
28	TEST4	I	For TEST. Normal time is non connection.
29	EMPH	O	Output is "H" time, it need de-emphasis
30	TESTA	I	For TEST. Normal time is "H".

No	PIN NAME	I / O	DESCRIPTION
31	SMP2	O	Output of signal to DAC, Signal of Latch & L / R select, Signal for Sampling Hold
32	SMP1	O	
33	LRCLK	O	Output of signal to DAC, Signal of Latch & L / R select, Signal for Sampling Hold
34	SMP	O	
35	DFOUT	O	Output of signal to DAC, Signal of Latch & L / R select, Signal for Sampling Hold
36	DACLK	O	Output of signal to DAC, Signal of Latch & L / R select, Signal for Sampling Hold
37	TESTB	O	For TEST. Normal time is non connection.
38	TESTC	O	For TEST. Normal time is non connection.
39	CK2	O	For output of signal that Comply with CD-ROM
40	ROMOUT	O	For output of signal that Comply with CD-ROM
41	C2FLCK	O	For output of signal that Comply with CD-ROM
42	C2F	O	For output of signal that Comply with CD-ROM
43	DOUT	O	Output of DIGITAL OUT
44	SBSY	O	Synchronizing signal of sub-code block.
45	EFLG	O	For correction monitor of C1, C2, single, double.
46	PW	O	SFSY is Synchronizing signal of sub-code & frame. Clock of eighth send to SBCK then read out the sub-code of P, Q, R, S, T, U, V, & W.
47	SFSY	O	
48	SBCK	I	
49	FSX	O	Output of Synchronizing signal (7.35KHz)
50	WRQ	O	Data sub-code Q pass the CRC check then WRQ do "H". It cetect at external, Data read out from SQOUT by send the $\overline{\text{CQCK}}$. RWC set the "H" by Micro Processor then it let command by send with Synchronizing CQCK command data.
51	RWC	I	
52	SQOUT	O	
53	COIN	I	
54	$\overline{\text{CQCK}}$	I	
55	RES	I	Turn on the Power Supply time : Once "L"
56	M / L	I	Data of SQOUT want at the LBS first time : M / L set the "L".
57	$\overline{\text{LASER}}$	O	This output can control at Serial Control from Micro Processor
58	16M	O	16M Output (16.9344MHz)
59	4M	O	4M Output (4.2336MHz)
60	CONT	O	This output can control at Serial Control from Micro Processor
61	TEST5	I	For TEST. Normal time is non connection.
62	CS	I	Chip select Terminal. This terminal "L" : LC7866 is active (Internal Resistor : Pull Down)
63	XIN	I	Connection Terminal of crystal oscillation (16.9344MHz)
64	XOUT	O	Connection Terminal of crystal oscillation (16.9344MHz)



EFMO
EFMO
PDO
AI
AO
PCK
TEST1
TEST2
TEST3
TEST4
TEST5
TEST6
VDD
VSS
EFMIN
FSEQ
CLV+
CLV-
V/P
PW SBCK
SBSY SFSY
WRQ SQOUT
M/L
CQCK
COIN
RWC
DEMO
SLICE LEVEL CONTROL
VCO CLOCK OSCILLATION CLOCK CONTROL
2KX8BIT RAM
RAM ADDRESS GENERATOR
SYNCHRONIZATION DETECTION EFM DEMODULATION
INTERPOLATION MUTE
C1 C2 ERROR DETECTION & CORRECTION FLAG PROCESSING
CLV DIGITAL SERVO
SUBCODE SEPARATION Q CRC
μCOM INTERFACE
SERVO COMMANDER
XTAL-SYSTEM TIMING GENARATOR
DIGITAL OUT
DAC OUTPUT INTERFACE
C2FCLK
CRSY
C2F
ROMOUT
DOUT
FST. FOCS
FDZ
HFL. RES
TES. JP+
TOFF. JP-
THLD. TGL
EMPH
LASER
16M
4.2M
EFLG
FSX
XIN
XOUT
CK2
DFIN
LRSY
TESTA
CONT
SMP2
SMP1
SMP
LRCLK
DACLK
DFOUT



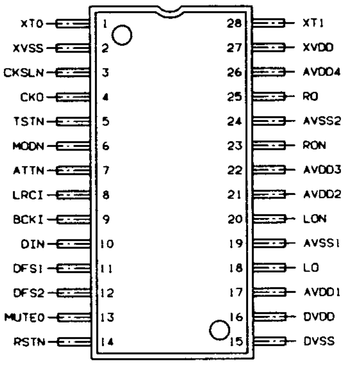
XOUT
XIN
CS
TEST5
CONT
4M
16M
LASER
M/L
RES
CQCK
COIN
SQOUT
RWC
WRQ
SFX
TEST1
AO
A1
PDO
VSS
EFMO
EFMO
EFMIN
TEST2
CLV+
CLV-
V/P
FOCS
FST
FZD
HFL
SBCK
SFSY
PW
EFLG
SBSY
DOUT
C2F
C2FCLK
ROMOUT
CK2
LRSY
DFIN
DACLK
DFOUT
SMP.
LRCLK
TES
PCK
FSEQ
TOFF
TGL
THLD
TEST3
VDD
JP+
JP-
DEMO
TEST4
EMPH
TESTA
SMP2
SMP1

IC BLOCK DIAGRAM (CD)

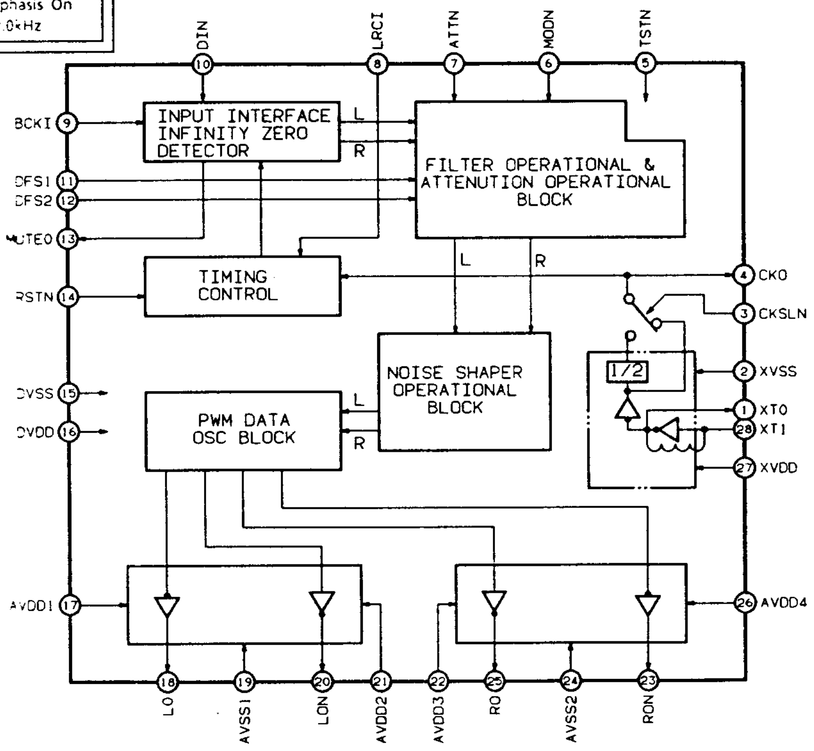
IC105 SM5870DS (D / A Converter)

<table>
<tr><th>No.</th><th>PIN NAME</th><th>I/O</th><th>FUNCTION</th></tr>
<tr><td>1</td><td>XTO</td><td>O</td><td>Output Terminal of Oscillation</td></tr>
<tr><td>2</td><td>XVSS</td><td></td><td>GND Terminal of Crystal Route (0V)</td></tr>
<tr><td>3</td><td>CKSLN</td><td>I</td><td>Frequency Select of XTI, CKO</td></tr>
<tr><td>4</td><td>CKO</td><td>O</td><td>Oscillation Part, Output of Clock</td></tr>
<tr><td>5</td><td>TSTN</td><td>I</td><td>Test Terminal H = Normal, L = Test Mode</td></tr>
<tr><td>6</td><td>NODN</td><td>I</td><td rowspan="2"><table><tr><td rowspan="4">ATTN</td><td rowspan="2"></td><td colspan="2">MODN</td></tr><tr><td>H</td><td>L</td></tr><tr><td>H</td><td>Release</td><td rowspan="2">Soft Mute
Hold</td></tr><tr><td>L</td><td>Soft Mute</td></tr></table></td></tr>
<tr><td>7</td><td>ATTN</td><td>I</td></tr>
<tr><td>8</td><td>LRCI</td><td>I</td><td>Sample rate (fs) Clock of Input Data
H = L-ch L = R-ch</td></tr>
<tr><td>10</td><td>DIN</td><td>i</td><td>Bit Clock of Input Data</td></tr>
<tr><td>11</td><td>DFS1</td><td>I</td><td rowspan="2"><table><tr><td rowspan="4">DSF2</td><td rowspan="2"></td><td colspan="2">DSF1</td></tr><tr><td>L</td><td>H</td></tr><tr><td>L</td><td>De-Emphasis On
44.1kHz</td><td>De-Empnasis Off</td></tr><tr><td>H</td><td>De-Emphasis On
48.0kHz</td><td>De-Emphasis On
32.0kHz</td></tr></table></td></tr>
<tr><td>12</td><td>DFS2</td><td>I</td></tr>
</table>

No.	PIN NAME	I/O	FUNCTION
13	MOTEO	O	Output of nfinity Zero Detector
14	RSTN	I	System Reset H = Normal, L = Reset
15	DVSS		Digital GND Terminal (0V)
16	DVDD		Digital VDD Terminal (5V)
17	AVDD1		Analog VDD Terminal 1 (5V)
18	LO	O	PWM Output of L-channel (+)
19	AVSS1		Analog GND Terminal 1 (0V)
20	LON	O	PWM Output of L-channel (-)
21	AVDD2		Analog VDD Terminal 2 (5V)
22	AVDD3		Analog VDD Terminal 3 (5V)
23	RON	O	PWM Output of R-channel (-)
24	AVSS2		Analog GND Terminal 2 (0V)
25	RO	O	PWM Output of R-channel (+)
26	AVDD		Analog VDD Terminal 4 (5V)
27	XVDD		VDD Terminal of Crystal Route (5V)
28	XTI	I	Input Terminal of Oscillation

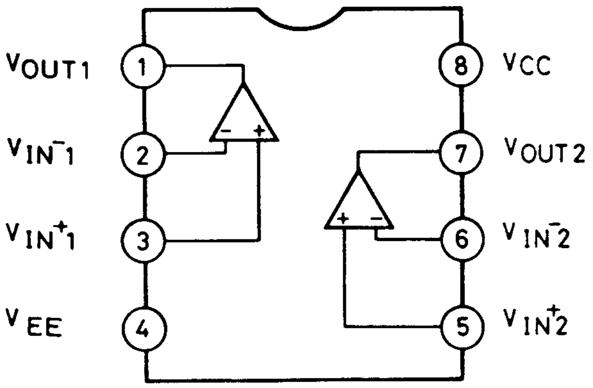


XTO 1
XVSS 2
CKSLN 3
CKO 4
TSTN 5
MODN 6
ATTN 7
LRCI 8
BCKI 9
DIN 10
DFSI 11
DFS2 12
MUTEO 13
RSTN 14
28 XTI
27 XVDD
26 AVDD4
25 RO
24 AVSS2
23 RON
22 AVDD3
21 AVDD2
20 LON
19 AVSSI
18 LO
17 AVDD1
16 DVDD
15 DVSS



DIN 10
LRCI 8
ATTN 7
MODN 6
TSTN 5
BCKI 9
DFS1 11
DFS2 12
MUTEO 13
RSTN 14
DVSS 15
DVDD 16
AVDD1 17
INPUT INTERFACE INFINITY ZERO DETECTOR
L
R
FILTER OPERATIONAL & ATTENUTION OPERATIONAL BLOCK
L
R
TIMING CONTROL
NOISE SHAPER OPERATIONAL BLOCK
PWM DATA OSC BLOCK
L
R
1/2
4 CKO
3 CKSLN
2 XVSS
1 XTO
28 XTI
27 XVDD
26 AVDD4
18 LO
19 AVSS1
20 LON
21 AVDD2
22 AVDD3
25 RO
24 AVSS2
23 RON

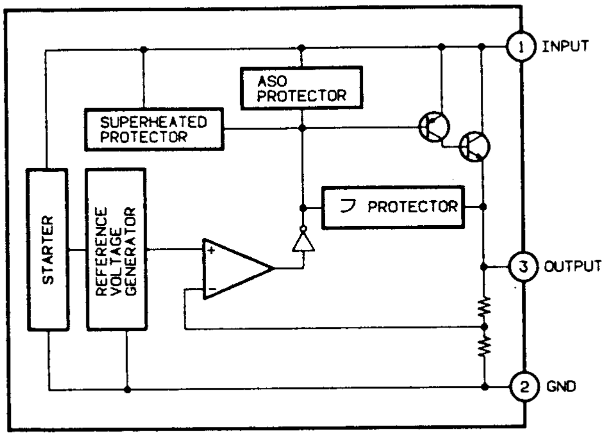
IC106 XRA15218F (Dual Operational Amplifier)



VOUT1 1
VIN-1 2
VIN+1 3
VEE 4
8 VCC
7 VOUT2
6 VIN-2
5 VIN+2

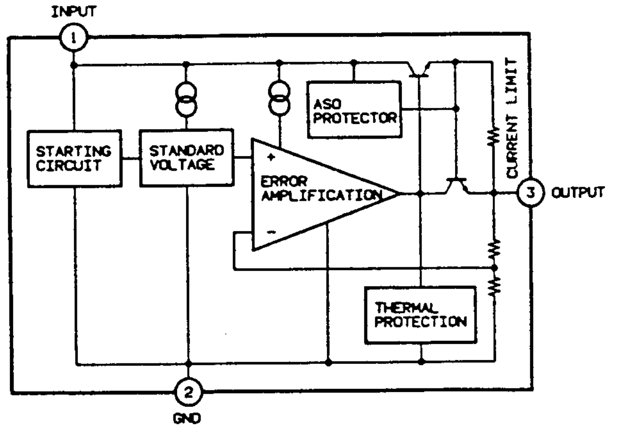
IC BLOCK DIAGRAM (CD & TUNER)

IC107 M5278D05 (3 Terminal Voltage Regulator)



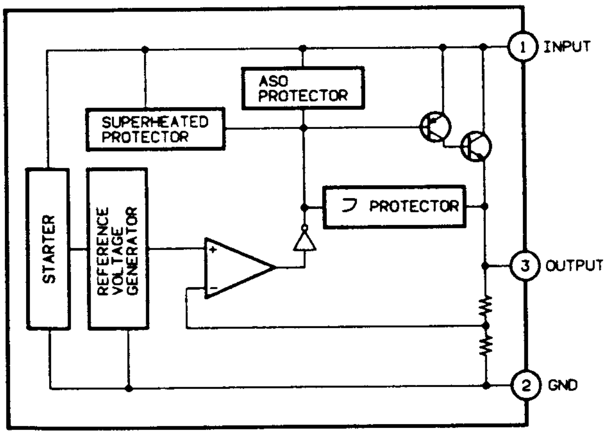
1 INPUT
ASO PROTECTOR
SUPERHEATED PROTECTOR
STARTER
REFERENCE VOLTAGE GENERATOR
ℑ PROTECTOR
3 OUTPUT
2 GND

IC108 NJM79L05 (3-Terminal Voltage Regulator)



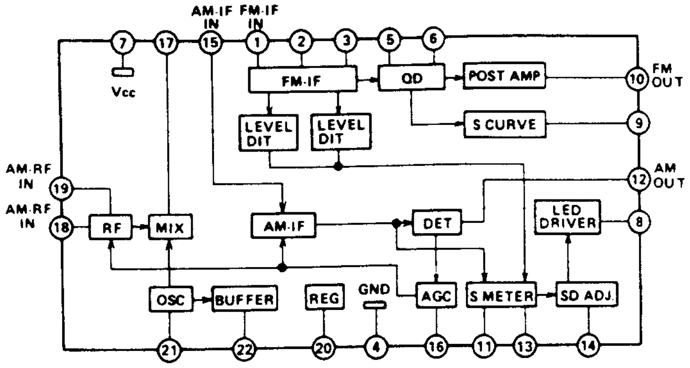
INPUT
1
STARTING CIRCUIT
STANDARD VOLTAGE
ASO PROTECTOR
ERROR AMPLIFICATION
CURRENT LIMIT
3 OUTPUT
THERMAL PROTECTION
2
GND

IC109 NJM78L05 (3-Terminal Voltage Regulator)



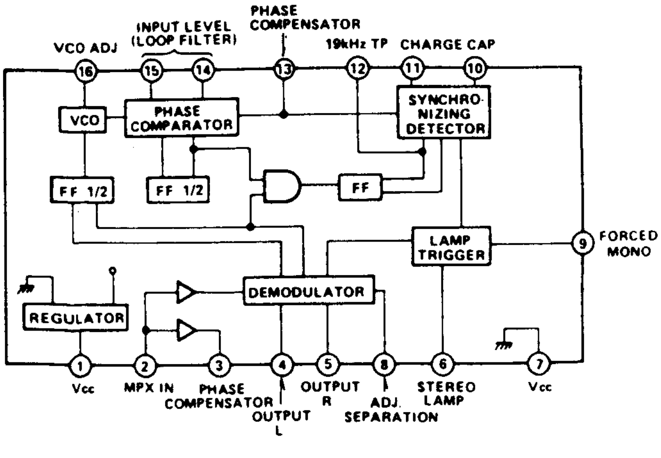
1 INPUT
ASO PROTECTOR
SUPERHEATED PROTECTOR
STARTER
REFERENCE VOLTAGE GENERATOR
ℑ PROTECTOR
3 OUTPUT
2 GND

IC201 LA2165 (Tuner IF System)



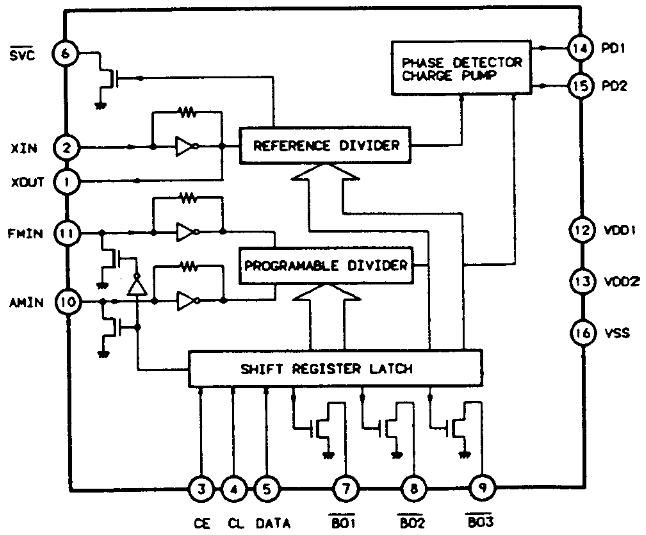
AM·IF IN
FM·IF IN
7
17
15
1
2
3
5
6
Vcc
FM·IF
QD
POST AMP
10 FM OUT
S CURVE
9
LEVEL DIT
LEVEL DIT
AM·RF IN 19
AM·RF IN 18
RF
MIX
AM·IF
DET
12 AM OUT
LED DRIVER
8
OSC
BUFFER
REG
GND
AGC
S METER
SD ADJ
21
22
20
4
16
11
13
14

IC202 LA3361 (FM PLL MPX. Stereo Demodulator)



VCO ADJ
INPUT LEVEL (LOOP FILTER)
PHASE COMPENSATOR
19kHz TP
CHARGE CAP
16
15
14
13
12
11
10
VCO
PHASE COMPARATOR
SYNCHRO-NIZING DETECTOR
FF 1/2
FF 1/2
FF
LAMP TRIGGER
9 FORCED MONO
REGULATOR
DEMODULATOR
1
2
3
4
5
8
6
7
Vcc
MPX IN
PHASE COMPENSATOR
OUTPUT L
OUTPUT R
ADJ. SEPARATION
STEREO LAMP
Vcc

IC203 LM7001 (PLL Frequency Synthesizer)



$\overline{SVC}$ 6
XIN 2
XOUT 1
FMIN 11
AMIN 10
PHASE DETECTOR CHARGE PUMP
14 PD1
15 PD2
REFERENCE DIVIDER
PROGRAMABLE DIVIDER
12 VDD1
13 VDD2
16 VSS
SHIFT REGISTER LATCH
3
4
5
7
8
9
CE
CL
DATA
$\overline{BO1}$
$\overline{BO2}$
$\overline{BO3}$

IC BLOCK DIAGRAM (FRONT)

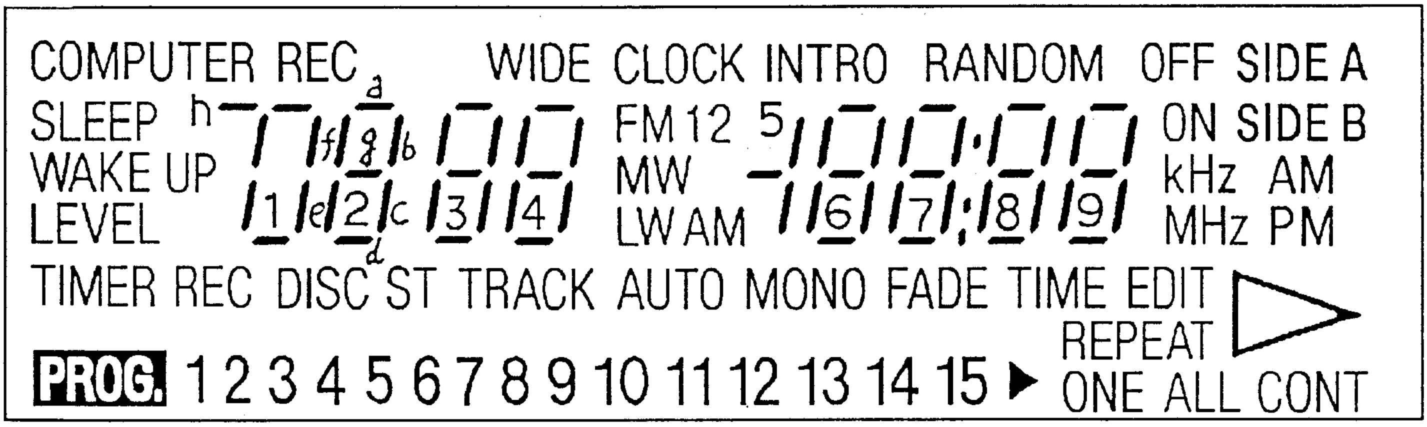
IC251 µPD75306GF-225-3B9 (Tuner & LCD Driveing Micro Processor)

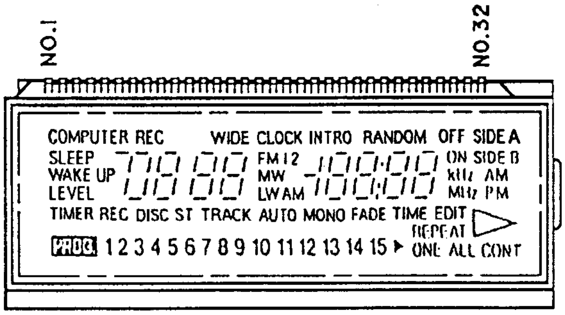
PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O	CONNECT
1	SEG12	S12	Segment of Liquid Crystal Display		LCD
2	SEG13	S13	Segment of Liquid Crystal Display		LCD
3	SEG14	S14	Segment of Liquid Crystal Display		LCD
4	SEG15	S15	Segment of Liquid Crystal Display		LCD
5	SEG16	S16	Segment of Liquid Crystal Display		LCD
6	SEG17	S17	Segment of Liquid Crystal Display		LCD
7	SEG18	S18	Segment of Liquid Crystal Display		LCD
8	SEG19	S19	Segment of Liquid Crystal Display		LCD
9	SEG20	S20	Segment of Liquid Crystal Display		LCD
10	SEG21	S21	Segment of Liquid Crystal Display		LCD
11	SEG22	S22	Segment of Liquid Crystal Display		LCD
12	SEG23	S23	Segment of Liquid Crystal Display		LCD
13	SEG24	S24/BP0	Segment of Liquid Crystal Display		LCD
14	SEG25	S25/BP1	Segment of Liquid Crystal Display		LCD
15	SEG26	S26/BP2	Segment of Liquid Crystal Display		LCD
16	SEG27	S27/BP3	Segment of Liquid Crystal Display		LCD
17	AUTO	S28/BP4	Auto Tuning Signal ACTIVE : HIGH LEVEL	O	TUNER
18	NC	S29/BP5	Not Used (Open)	O	OPEN
19	NC	S30/BP6	Not Used (Open)	O	OPEN
20	NC	S31/BP7	Not Used (Open)	O	OPEN
21	COM 0	COM0	Common of Liquid Crystal Display		LCD
22	COM 1	COM1	Common of Liquid Crystal Display		LCD
23	COM 2	COM2	Common of Liquid Crystal Display		LCD
24	COM 3	COM3	Common of Liquid Crystal Display		LCD
25	BIAS	BIAS	Bias of Liquid Crystal Display		
26	VLC0	V_{LC0}	Power Supply for Drive of Liquid Crystal Display		
27	VLC1	V_{LC1}	Power Supply for Drive of Liquid Crystal Display		
28	VLC2	V_{LC2}	Power Supply for Drive of Liquid Crystal Display		
29	STEP	P40	AM Step Selection 9kHz (V_{DD}) / 10kHz (V_{SS})	I	TUNER
30	ST	P41	ST Signal ACTIVE : LOW LEVEL	I	TUNER
31	SD	P42	SD Signal ACTIVE : LOW LEVEL	I	TUNER
32	NC	P43	Not Used (Ground)	I	V_{SS}
33	VSS	V_{SS}	Ground		
34	CE (S)	P50	Data Signal from LM7001 (For S Series)	O	TUNER
35	CLK (S)	P51	Data Signal from LM7001 (For S Series)	O	TUNER
36	DO (S)	P52	Data Signal from LM7001 (For S Series)	O	TUNER
37	MONO (S)	P53	Compulsion Monaural (For S Series) ACTIVE : HIGH LEVEL	O	TUNER
38	NC	P00/INT4	Not Used (Ground)	I	V_{SS}
39	SCK	P01/SCK	Clock Signal In from Main Micro Processor (µPD65117)	I	MAIN µCON
40	NC	P02/SO/SB0	Not Used (Ground)		V_{SS}
41	SI	P03/SI/SB1	Data In from Main Micro Processor (µPD65117)	I	MAIN µCON
42	NC	P10/INT0	Not Used (Ground)	I	V_{SS}
43	NC	P11/INT1	Not Used (Ground)	I	V_{SS}
44	NC	P12/INT2	Not Used (Ground)	I	V_{SS}
45	NC	P13/T10	Not Used (Ground)	I	V_{SS}
46	WIDE	P20/PT100	Select Signal for AM Signal Type Wide (HIGH) / Narrow (LOW)	O	TUNER
47	PCON (S)	P21	Tuner Power Signal (For S Series) ACTIVE : HIGH LEVEL	O	TUNER
48	MUTE	P22/PCL	Tuner Mute Signal ACTIVE : HIGH LEVEL	O	TUNER
49	BUSY	P23/BUZ	Busy Signal Out to Main Micro Processor (µPD65117)	O	MAIN µCON
49	BUSY	P23/BUZ	Busy Signal Out to Main Micro Processor (µPD65117)	O	MAIN µCON
50	S0	P30/LCDCL	Initial Set for User = Country (Open or Ground)	I	
51	S1	P31/SYNC	Initial Set for User = Country (Open or Ground)	I	
52	S2	P32	Initial Set for User = Country (Open or Ground)	I	
53	S3 (FM MUTE)	P33	Select Signal for FM Auto Mute SET (Open) / NOT (V_{SS})	I	
54	VDD	V_{DD}	Power Supply +5V		V_{DD}
55	NC	XT1	Not Used (Ground) OSC X'tal Terminal for Main Clock	I	V_{SS}
56	NC	XT2	Not Used (Open) OSC X'tal Terminal for Main Clock	O	
57	NC	NC	Non Connection		
58	X1	XI	X'tal In (4.194304 MHz)	I	
59	X2	XO	X'tal Out (4.194304 MHz)	O	
60	S4 (12H/24H)	P60/KR0	Select Signal for CLOCK 24H (Open) / 12H (V_{SS})	I	
61	S5 (AM IF)	P61/KR1	Select Signal for AM IF SET (Open) / NOT (V_{SS})	I	TUNER
62	S6 (D/S)	P62/KR2	Select Signal for D & S Series SET (Open) / NOT (V_{SS})	I	
48	MUTE	P22/PCL	Tuner Mute Signal ACTIVE : HIGH LEVEL	O	TUNER
63	MONO (D)	P63/KR3	Compulsion Monaural (For D Series) ACTIVE : HIGH LEVEL	O	TUNER
64	DO (D)	P70/KR4	Data Signal from LM7001 (For D Series)	O	TUNER
65	CLK (D)	P71/KR5	Data Signal from LM7001 (For D Series)	O	TUNER

IC BLOCK DIAGRAM (FRONT)

PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O	CONNECT
66	CE (D)	P72 / KR6	Data Signal from LM7001 (For D Series)	O	TUNER
67	PCON (D)	P73 / KR7	Tuner Power Signal (For D Series) ACTIVE : HIGH LEVEL	O	TUNER
68	RESET	RESET	System Reset Signal		RESET CIRCUIT
69	SEG0	S0	Segment of Liquid Crystal Display		LCD
70	SEG1	S1	Segment of Liquid Crystal Display		LCD
71	SEG2	S2	Segment of Liquid Crystal Display		LCD
72	SEG3	S3	Segment of Liquid Crystal Display		LCD
73	SEG4	S4	Segment of Liquid Crystal Display		LCD
74	SEG5	S5	Segment of Liquid Crystal Display		LCD
75	SEG6	S6	Segment of Liquid Crystal Display		LCD
76	SEG7	S7	Segment of Liquid Crystal Display		LCD
77	SEG8	S8	Segment of Liquid Crystal Display		LCD
78	SEG9	S9	Segment of Liquid Crystal Display		LCD
79	SEG10	S10	Segment of Liquid Crystal Display		LCD
80	SEG11	S11	Segment of Liquid Crystal Display		LCD

LCD


COMPUTER REC
WIDE CLOCK INTRO RANDOM OFF SIDE A
SLEEP
WAKE UP
LEVEL
h
a
f
g
b
e
c
d
1
2
3
4
FM 1 2
MW
LW AM
5
6
7
8
9
ON SIDE B
kHz AM
MHz PM
TIMER REC DISC ST TRACK AUTO MONO FADE TIME EDIT
REPEAT
PROG. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 ▶ ONE ALL CONT


NO.1
NO.32
COMPUTER REC WIDE CLOCK INTRO RANDOM OFF SIDE A
SLEEP
WAKE UP
LEVEL
FM 1 2
MW
LW AM
ON SIDE B
kHz AM
MHz PM
TIMER REC DISC ST TRACK AUTO MONO FADE TIME EDIT
REPEAT
PROG. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 ▶ ONE ALL CONT

NO.	COM. 1	COM. 2	COM. 3	COM. 4
1	CONT	ALL	ONE	REPEAT
2	13	14	15	▶
3	12	11	10	9
4	5	6	7	8
5	4	3	2	1
6	SLEEP	WAKE UP	TIMER	REC
7	COMP. REC	LEVEL	DISC	PROG.
8	1h	1a.e.f	1b.c	1d
9	2f	2g	2e	2d
10	2a	2b	2c	ST
11	3f	3g	3e	3d
12	3a	3b	3c	TRACK
13	4f	4g	4e	4d
14	4a	4b	4c	AUTO
15	WIDE	FM	MW	LW
16	CLOCK	1 (FM)	2 (FM)	AM

NO.	COM. 1	COM. 2	COM. 3	COM. 4
17	INTRO	5b.c	5g	
18	6f	6g	6e	6d
19	6a	6b	6c	MONO
20	7f	7g	7e	7d
21	7a	7b	7c	FADE
22	RANDM	:	.	TIME
23	8f	8g	8e	8d
24	8a	8b	8c	EDIT
25	9f	9g	9e	9d
26	9a	9b	9c	▷
27	OFF	ON	KHz	MHz
28	DISE A	DISE B	AM	PM
29	COM. 1			
30		COM. 2		
31			COM. 3	
32				COM. 4

VOLTAGES OF IC (CD)

(Unit : Volt)

IC101 LA9210M

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	*0*	*-5.0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2.59*	*2.54*	*2.55*	*0*	*0*	*0*	*0*
Play Mode	*0*	*-5.0*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*0*	*0*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode	*0*	*0*	*0*	*0*	*Fluc*	*Fluc*	*0*	*0*	*0*	*0*	*Fluc*	*2.43*	*0*	*0*	*0*	*-5.0*
Play Mode	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*0*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*-5.0*
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode	*0*	*0*	*0*	*5.0*	*4.39*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*4.97*	*4.92*	*4.07*	*4.07*
Play Mode	*Fluc*	*Fluc*	*Fluc*	*5.0*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*0*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode	*4.07*	*0*	*0*	*0*	*2.52*	*2.49*	*2.50*	*5.0*	*2.51*	*2.51*	*2.54*	*3.92*	*2.60*	*2.33*	*4.92*	*0*
Play Mode	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*5.0*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*0*
Measuring Pin No.	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Stop Mode	*0*	*0.4*	*-0.4*	*0*	*-0.5*	*-0.5*	*0*	*-0.5*	*0*	*4.82*	*-4.97*	*4.83*	*5.0*	*0*	*0*	*0*
Play Mode	*0*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*0*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*5.0*	*Fluc*	*Fluc*	*0*

IC102 LA6524

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10
Play Mode	*Fluc*	*Fluc*	*-11*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*10*	*Fluc*	*Fluc*

Fluc : Fluctuation

IC103 μPD75116

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	*0*			*(0)*	*(0)*	*(0)*										*(0)*
Play Mode	*4.8*	*5.0*	*0*	*(5.0)*	*(5.0)*	*(5.0)*	*5.0*	*2.5*	*2.5*	*4.7*	*5.0*	*5.0*	*0*	*0*	*0*	*(4.8)*
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode							*(0)*	*0*								
Play Mode	*0*	*0*	*0*	*0*	*0*	*5.0*	*(5.0)*	*Fluc*	*2.5*	*0*	*4.7*	*4.8*	*0*	*5.0*	*5.0*	*5.0*
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode					*(0)*		*(5.0)*					*0*				
Play Mode	*5.0*	*5.0*	*0*	*0*	*(5.0)*	*0*	*(0)*	*0*	*0*	*0*	*5.0*	*4.0*	*5.0*	*5.0*	*0*	*0*
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode													*(0)*			*0*
Play Mode	*0*	*0*	*0*	*0*	*0*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*	*(5.0)*	*0*	*5.0*	*5.0*

NOTES :

PIN 4 : Stop Mode = OTHER
Play Mode = TAPE & TUNER

PIN 5 : Stop Mode = OTHER
Play Mode = CD & PHONO

PIN 6 : Stop Mode = OTHER
Play Mode = TUNER, AV & CD

PIN 16 : Stop Mode = OTHER
Play Mode = WAIT THE SYNCRO

PIN 23 : Stop Mode = ON THE DISC
Play Mode = ON THE NO DISC

PIN 37 : Stop Mode = OTHER
Play Mode = CLOSING THE TRAY

PIN 39 : Stop Mode = OTHER
Play Mode = OPENING THE TRAY

PIN 62 : Stop Mode = EMPHASIS ON
Play Mode = EMPHASIS OFF

IC104 LC7866E

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	*0*	*2.31*	*2.34*	*2.51*	*0*	*2.46*	*2.48*	*2.52*	*0*	*0*	*0*	*4.92*	*0*	*2.51*	*4.07*	*4.07*
Play Mode	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*0*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode	*4.07*	*2.5*	*0*	*4.95*	*4.97*	*0*	*0*	*5.0*	*0*	*0*	*0*	*0*	*0*	*5.0*	*1.25*	*1.25*
Play Mode	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*5.0*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*5.0*	*Fluc*	*Fluc*
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode	*2.5*	*2.5*	*0*	*2.5*	*0*	*2.5*	*2.41*	*1.63*	*2.5*	*4.5*	*2.52*	*Fluc*	*2.28*	*0*	*2.5*	*0*
Play Mode	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*0(4.5)*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode	*2.5*	*Fluc*	*Fluc*	*Fluc*	*0*	*5.0*	*4.48*	*0*	*4.92*	*Fluc*	*2.33*	*4.93*	*0*	*0*	*2.28*	*2.47*
Play Mode	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*0*	*5.0*	*Fluc*	*0*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*Fluc*	*0*	*Fluc*	*Fluc*

IC105 SM5870DS

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Play Mode	*3.0*	*0*	*0*	*0*	*5.0*	*5.0*	*5.0*	*2.5*	*2.4*	*1.6*	*5.0*	*0*	*0*	*4.8*	*0*	*5.0*
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28				
Play Mode	*5.0*	*2.4*	*0*	*2.4*	*5.0*	*5.0*	*2.4*	*0*	*2.4*	*5.0*	*5.0*	*1.3*				

IC106 XRA15218F

Measuring Pin No.	1	2	3	4	5	6	7	8
Play Mode	*Fluc*	*1.3*	*1.3*	*-5.0*	*1.3*	*1.3*	*Fluc*	*5.0*

VOLTAGES OF IC & TRANSISTOR (CD)

Transistor No.	IC107			IC108			IC109		
Measuring Pin Name	1 (OUT)	2 (GND)	3 (IN)	1 (COM)	2 (IN)	3 (OUT)	1 (OUT)	2 (GND)	3 (IN)
Stop Mode	5.0	0	11	-11.5	0	-5.0	5.6	0.6	12
Play Mode	5.0	0	10	-11.5	0	-5.0	5.6	0.6	12

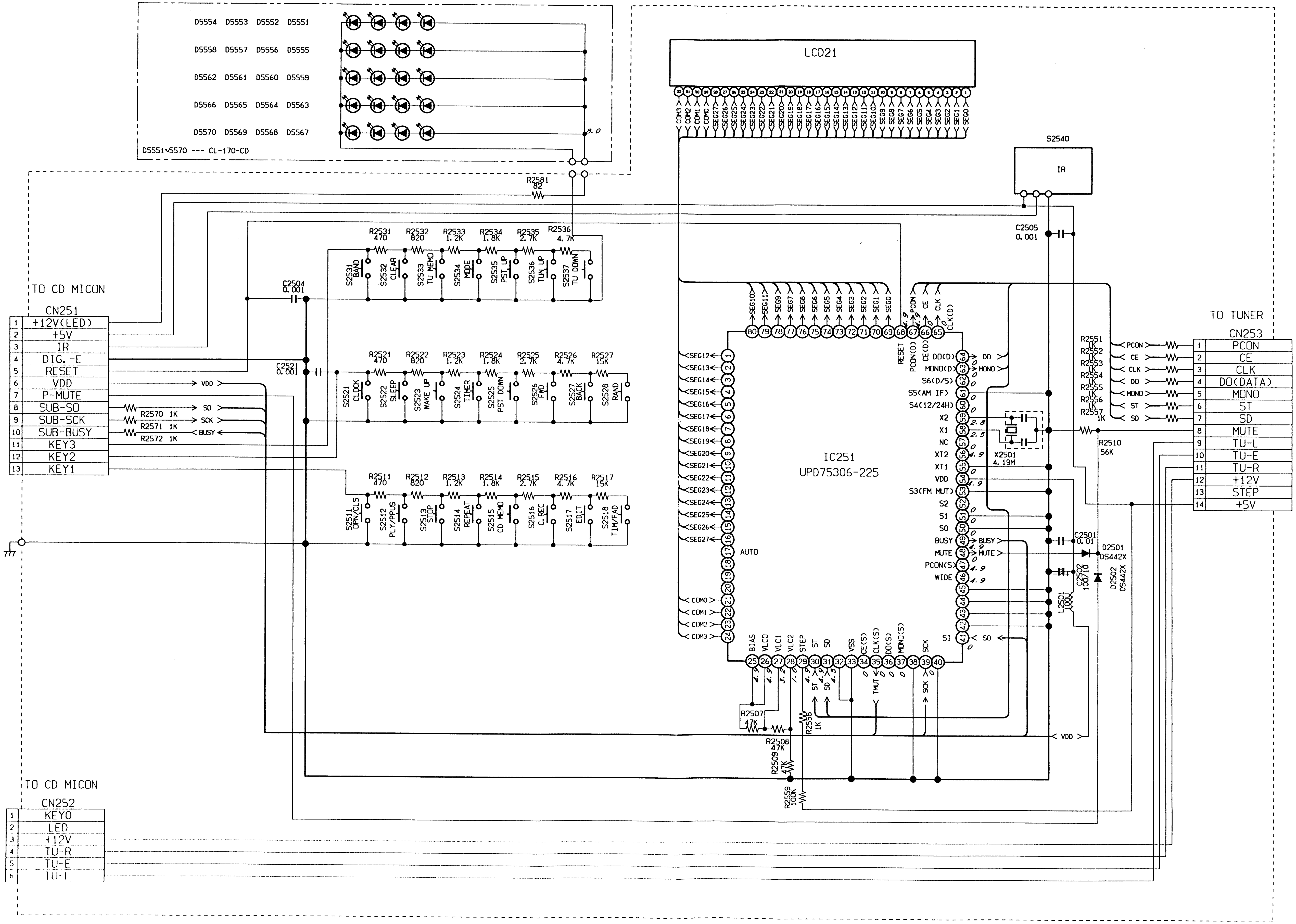
TRANSISTOR

(Unit : Volt)

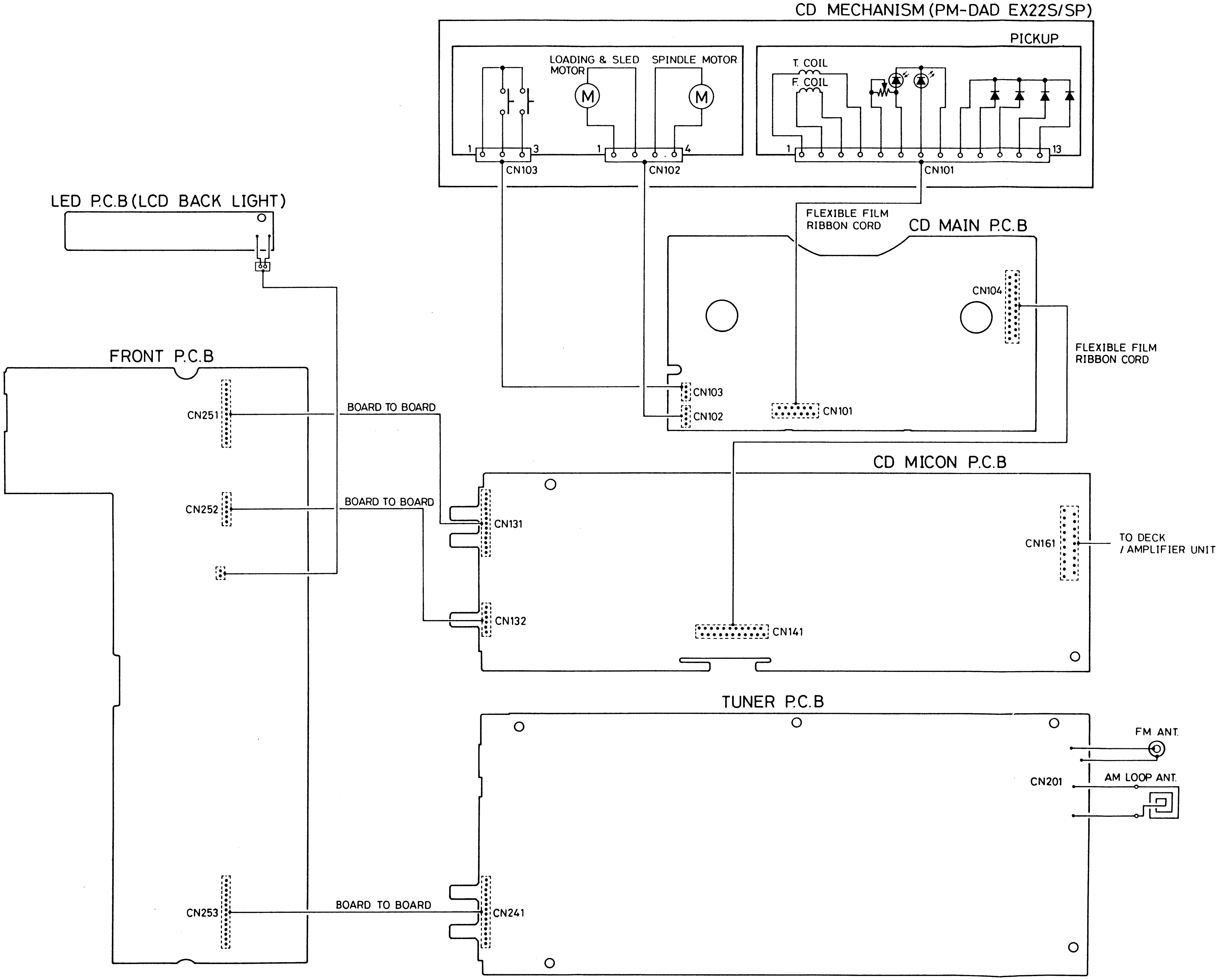
Transistor No.	Q101			Q102			Q103			Q1301		
Measuring Pin Name	E	C	B	E	C	B	E	C	B	E	C	B
Stop Mode	5.0	0	4.7	2.0	2.5	2.5	0	0	0.6			
Play Mode	3.6	1.8	3.0				0	4.9	0	5.0	5.0	0
Transistor No.	Q1302			Q1303			Q1304			Q1305		
Measuring Pin Name	E	C	B	E	C	B	E	C	B	E	C	B
Stop Mode				4.8	4.8	0	0	0	0.6	5.0	5.0	4.3
Play Mode	0	5.0	0	0	-5.0	0	0	0	0.6	5.0	5.0	4.3
Transistor No.	Q1500			Q1501								
Measuring Pin Name	E	C	B	E	C	B						
Stop Mode	0	0	0.6	0	0	0.6						
Play Mode	0	0	-5.0	0	0	-5.0						

MEMO

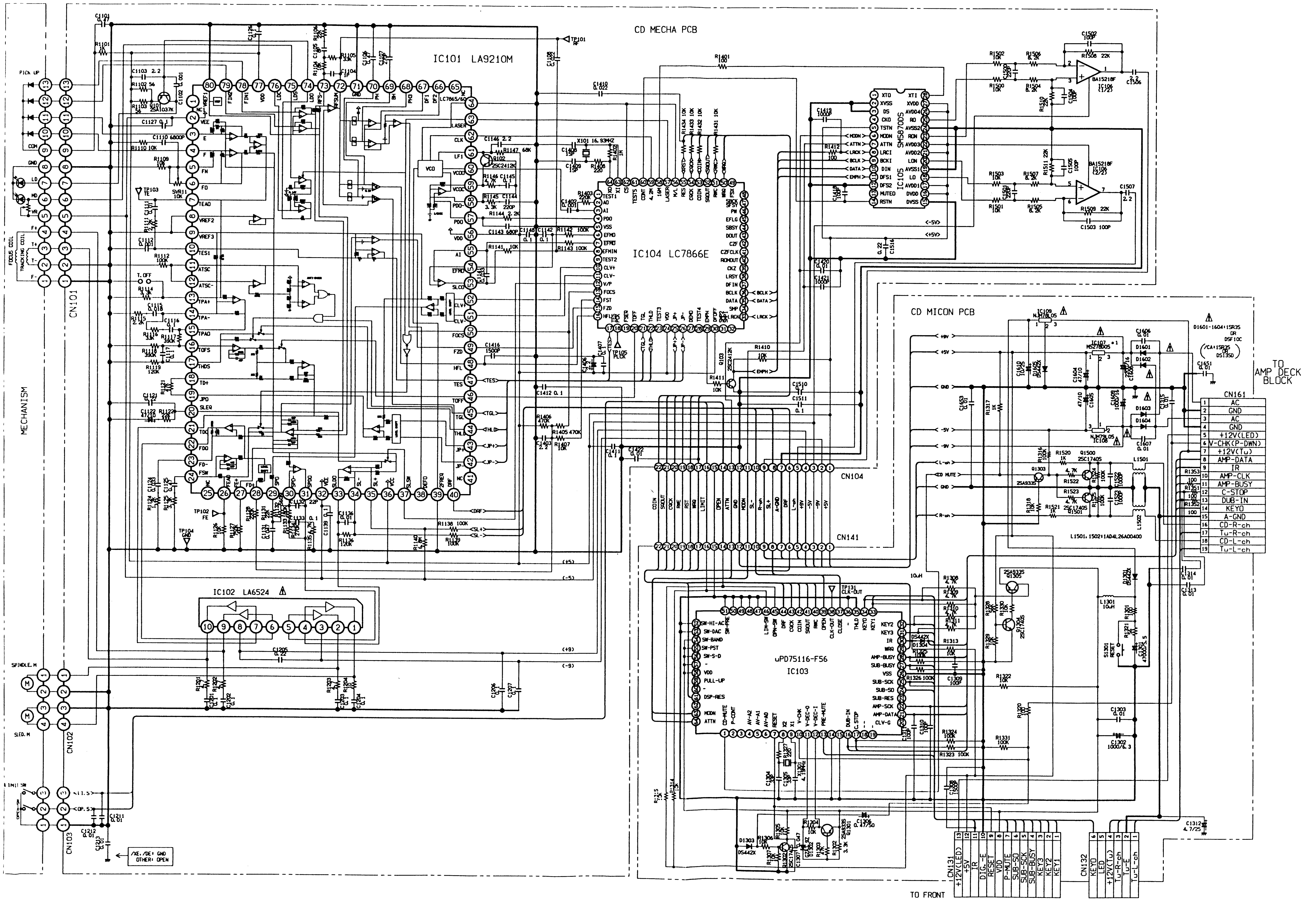
SCHEMATIC DIAGRAM (FRONT)


D5554 D5553 D5552 D5551
D5558 D5557 D5556 D5555
D5562 D5561 D5560 D5559
D5566 D5565 D5564 D5563
D5570 D5569 D5568 D5567
D5551~5570 --- CL-170-CD
LCD21
S2540
IR
R2581 82
C2505 0.001
R2531 470
R2532 820
R2533 1.2K
R2534 1.8K
R2535 2.7K
R2536 4.7K
S2531 BAND
S2532 CLEAR
S2533 TU MEMO
S2534 MODE
S2535 PST UP
S2536 TUN UP
S2537 TU DOWN
C2504 0.001
TO CD MICON
CN251
+12V(LED)
+5V
IR
DIG.-E
RESET
VDD
P-MUTE
SUB-SO
SUB-SCK
SUB-BUSY
KEY3
KEY2
KEY1
R2570 1K
R2571 1K
R2572 1K
C2521 0.001
R2521 470
R2522 820
R2523 1.2K
R2524 1.8K
R2525 2.7K
R2526 4.7K
R2527 15K
S2521 CLOCK
S2522 SLEEP
S2523 WAKE UP
S2524 TIMER
S2525 PST DOWN
S2526 FWD
S2527 BACK
S2528 RAND
R2511 470
R2512 820
R2513 1.2K
R2514 1.8K
R2515 2.7K
R2516 4.7K
R2517 15K
S2511 OPN/CLS
S2512 PLY/PPUS
S2513 STOP
S2514 REPEAT
S2515 CD MEMO
S2516 C.REC
S2517 EDIT
S2518 TIM/FAD
IC251
UPD75306-225
AUTO
RESET
PCON(D)
CE(D)
DO(D)
MONO(D)
S6(D/S)
S5(AM IF)
S4(12/24H)
X2
X1
NC
XT2
XT1
VDD
S3(FM MUT)
S2
S1
SO
BUSY
MUTE
PCON(S)
WIDE
SI
BIAS
VLC0
VLC1
VLC2
STEP
ST
SD
VSS
CE(S)
CLK(S)
DO(S)
MONO(S)
SCK
X2501 4.19M
C2501 0.01
D2501 DS442X
D2502 DS442X
C2502 100/10
L2501 100U
R2510 56K
R2551 1K
R2552 1K
R2553 1K
R2554 1K
R2555 1K
R2556 1K
R2557 1K
R2507 47K
R2508 47K
R2509 47K
R2558 1K
R2559 100K
TO TUNER
CN253
PCON
CE
CLK
DO(DATA)
MONO
ST
SD
MUTE
TU-L
TU-E
TU-R
+12V
STEP
+5V
TO CD MICON
CN252
KEYO
LED
+12V
TU-R
TU-E
TU-L

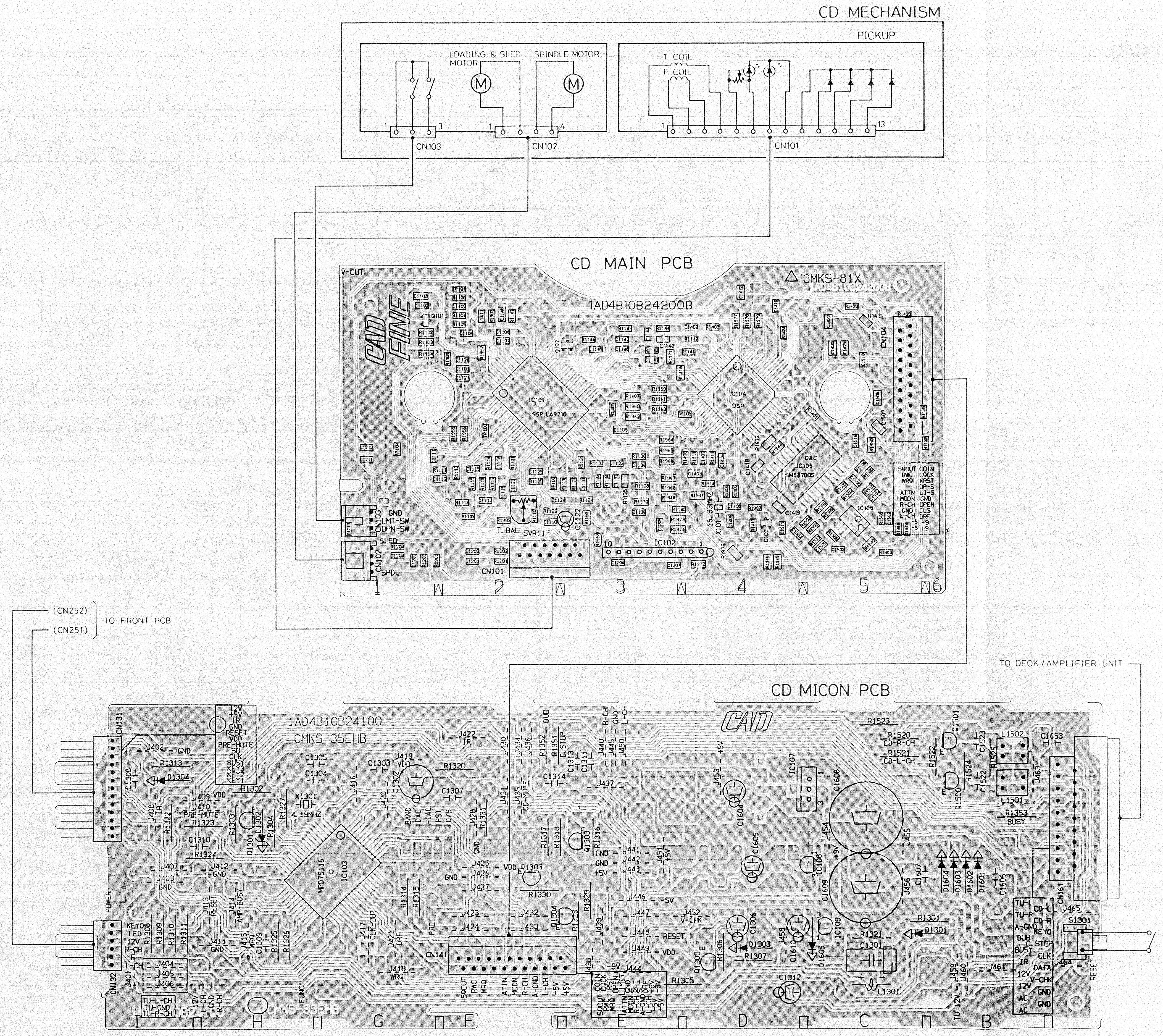
WIRING CONNECTION (TUNER / CD UNIT)


CD MECHANISM (PM-DAD EX22S/SP)
PICKUP
LOADING & SLED MOTOR
SPINDLE MOTOR
M
M
T. COIL
F. COIL
1
3
1
4
1
13
CN103
CN102
CN101
LED P.C.B (LCD BACK LIGHT)
FLEXIBLE FILM RIBBON CORD
CD MAIN P.C.B
CN104
FLEXIBLE FILM RIBBON CORD
FRONT P.C.B
CN103
CN102
CN101
CN251
BOARD TO BOARD
CD MICON P.C.B
CN252
BOARD TO BOARD
CN131
CN161
TO DECK / AMPLIFIER UNIT
CN132
CN141
TUNER P.C.B
FM ANT.
CN201
AM LOOP ANT.
CN253
BOARD TO BOARD
CN241

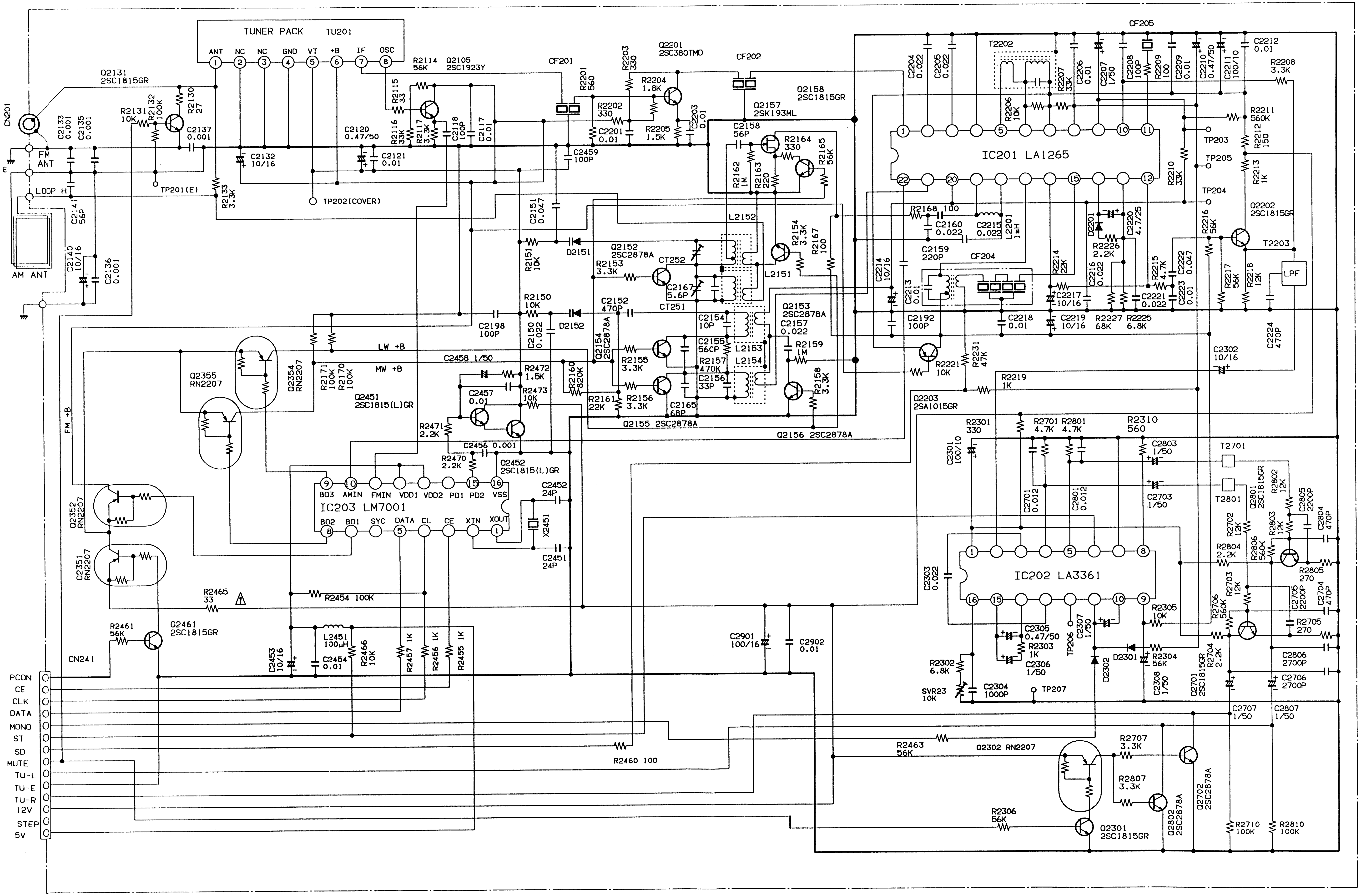
SCHEMATIC DIAGRAM (CD)


CD MECHA PCB
IC101 LA9210M
IC104 LC7866E
IC105 SM5870DS
IC106 BA15218F
IC102 LA6524
CD MICON PCB
uPD75116-F56
IC103
MECHANISM
CN101
CN102
CN103
CN104
CN141
CN161
CN131
CN132
PICK UP
FOCUS COIL
TRACKING COIL
SPINDLE.M
SLED.M
LIMIT SW
X101 16.934MHZ
TO AMP DECK BLOCK
AC
GND
AC
GND
+12V(LED)
V-CHK(P-DWN)
+12V(Tu)
AMP-DATA
IR
AMP-CLK
AMP-BUSY
C-STOP
DUB-IN
KEY0
A-GND
CD-R-ch
Tu-R-ch
CD-L-ch
Tu-L-ch
+12V(LED)
+5V
IR
DIG-E
RESET
VDD
P-MUTE
SUB-SO
SUB-SCK
SUB-BUSY
KEY3
KEY2
KEY1
KEY0
LED
+12V(Tu)
Tu-R-ch
Tu-E
Tu-L-ch
TO FRONT
D1601-1604:1SR35 OR DSF10C
L1501, 1502:1AD4L26A00400
/XE, /DE: GND OTHER: OPEN

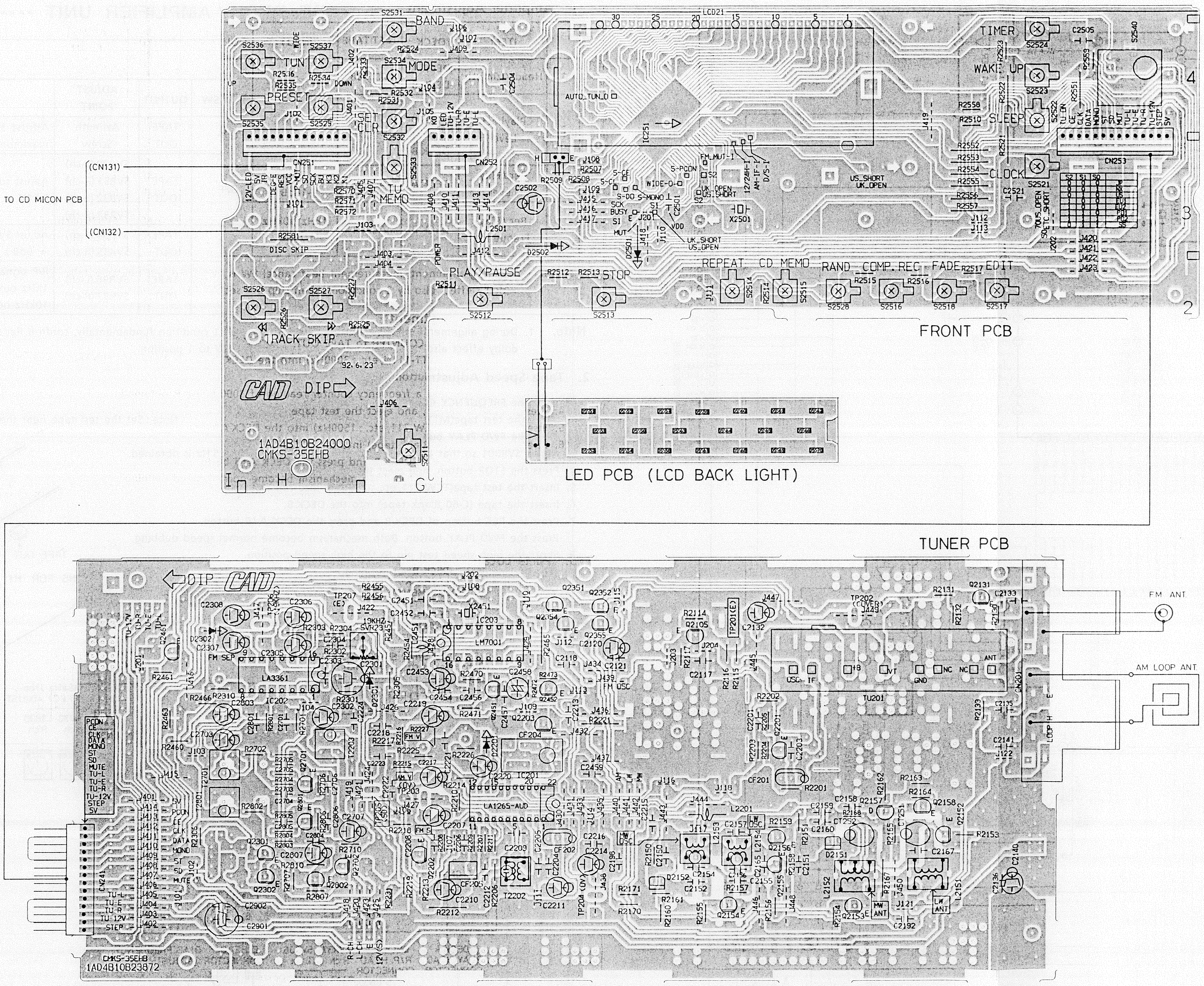
WIRING DIAGRAM (CD)


CD MECHANISM
LOADING & SLED MOTOR
SPINDLE MOTOR
PICKUP
T COIL
F COIL
CN103
CN102
CN101
CD MAIN PCB
CMKS-81X
1AD4B10B24200B
IC101
SSP LA9210
IC104
DSP
DAC
IC105
IC102
CN104
GND
LMT-SW
LDPN-SW
SLED
SPDL
T. BAL
SVR111
(CN252)
(CN251)
TO FRONT PCB
TO DECK / AMPLIFIER UNIT
CD MICON PCB
1AD4B10B24100
CMKS-35EHB
IC103
MPD75116
X1301
4.19MHz
CN131
CN132
CN141
CN161
POWER
S1301
RESET
IC107
IC108
IC109

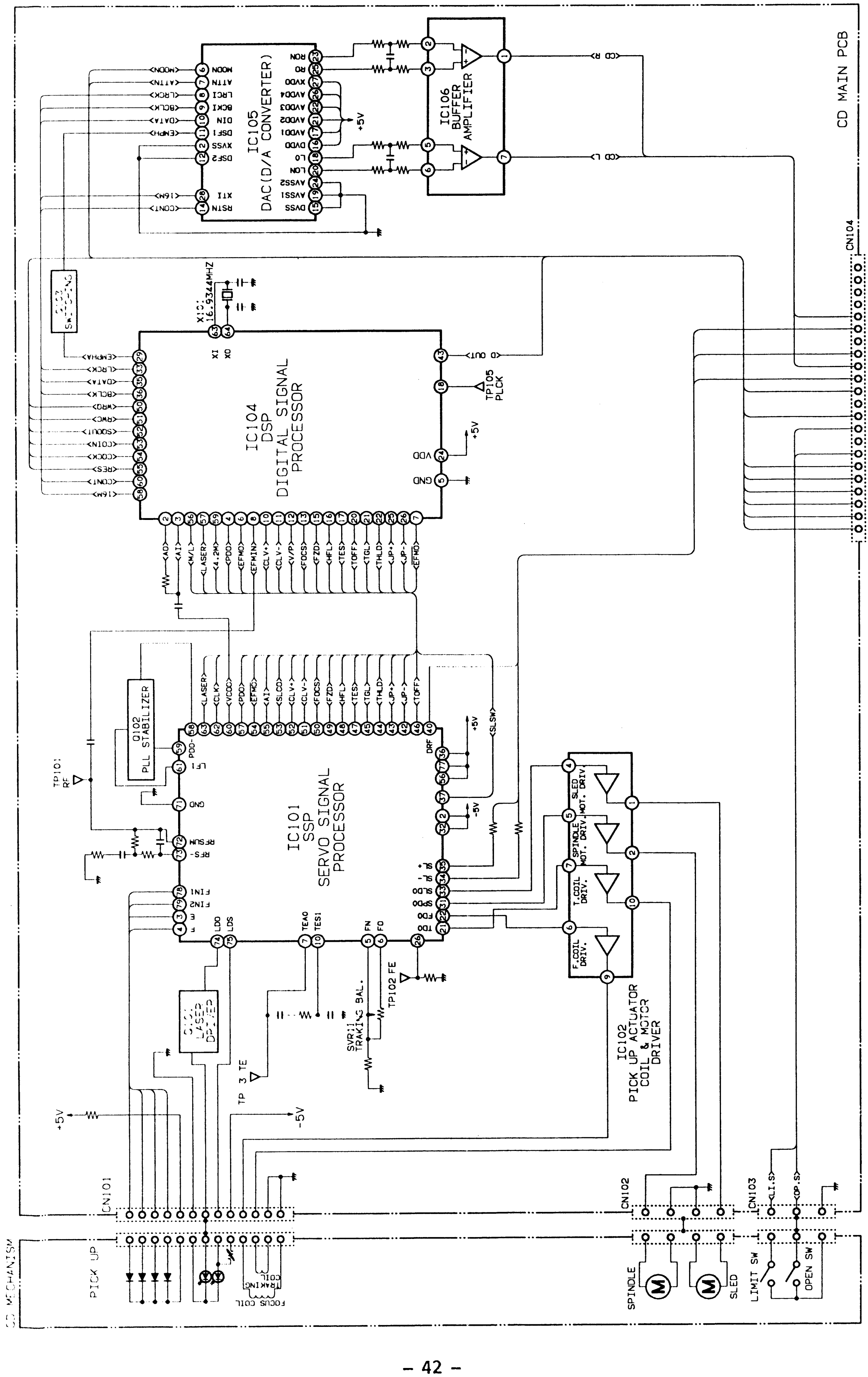
SCHEMATIC DIAGRAM (TUNER)


TUNER PACK TU201
ANT NC NC GND VT +B IF OSC
CN201
FM ANT
LOOP H
AM ANT
E
Q2131 2SC1815GR
R2131 10K
R2132 100K
R2130 27
C2137 0.001
C2133 0.001
C2135 0.001
C2132 10/16
TP201(E)
R2133 3.3K
C2141 56P
C2140 10/16
C2136 0.001
TP202(COVER)
R2114 56K
Q2105 2SC1923Y
R2115 33
R2116 33K
R2117 3.3K
C2118 100P
C2117 0.01
C2120 0.47/50
C2121 0.01
CF201
R2201 560
R2203 330
Q2201 2SC380TMO
R2204 1.8K
R2202 330
C2201 0.01
R2205 1.5K
C2203 0.01
C2459 100P
CF202
Q2158 2SC1815GR
Q2157 2SK193ML
C2158 56P
R2164 330
R2165 56K
R2162 1M
R2163 220
C2151 0.047
D2151
R2151 10K
Q2152 2SC2878A
R2153 3.3K
CT252
C2167 5.6P
CT251
L2152
L2151
R2154 3.3K
R2167 100
R2150 10K
C2198 100P
C2150 0.022
D2152
C2152 470P
C2154 2SC2878A
C2154 10P
C2155 56CP
C2157 0.022
Q2153 2SC2878A
L2153
L2154
R2157 470K
C2156 33P
R2159 1M
R2158 3.3K
R2155 3.3K
R2156 3.3K
R2161 22K
R2160 820K
C2165 68P
Q2155 2SC2878A
Q2156 2SC2878A
LW +B
MW +B
FM +B
Q2355 RN2207
Q2354 RN2207
R2171 100K
R2170 100K
C2458 1/50
R2472 1.5K
R2473 10K
C2457 0.01
Q2451 2SC1815(L)GR
R2471 2.2K
C2456 0.001
R2470 2.2K
Q2452 2SC1815(L)GR
C2452 24P
X2451
C2451 24P
IC203 LM7001
BO3 AMIN FMIN VDD1 VDD2 PD1 PD2 VSS
BO2 BO1 SYC DATA CL CE XIN XOUT
Q2352 RN2207
Q2351 RN2207
R2465 33
R2454 100K
R2461 56K
Q2461 2SC1815GR
CN241
C2453 10/16
L2451 100μH
C2454 0.01
R2466 10K
R2457 1K
R2456 1K
R2455 1K
PCON
CE
CLK
DATA
MONO
ST
SD
MUTE
TU-L
TU-E
TU-R
12V
STEP
5V
R2460 100
CF205
C2204 0.022
C2205 0.022
T2202
R2207 33K
C2206 0.01
C2207 1/50
C2208 100P
R2209 100
C2209 0.01
C2210 0.47/50
C2211 100/10
C2212 0.01
R2208 3.3K
R2206 10K
R2211 560K
R2212 150
TP203
TP205
R2213 1K
TP204
IC201 LA1265
R2210 33K
R2168 100
C2160 0.022
C2215 0.022
L2201 1mH
C2159 220P
CF204
D2201
R2226 2.2K
C2220 4.7/25
R2216 56K
Q2202 2SC1815GR
T2203
LPF
C2214 10/16
C2213 0.01
R2214 22K
C2216 0.022
C2217 10/16
R2215 4.7K
C2222 0.047
C2221 0.022
C2223 0.01
R2217 56K
R2218 12K
C2192 100P
C2218 0.01
C2219 10/16
R2227 68K
R2225 6.8K
C2224 470P
R2221 10K
R2231 47K
R2219 1K
Q2203 2SA1015GR
C2302 10/16
R2301 330
R2701 4.7K
R2801 4.7K
R2310 560
C2301 100/10
C2803 1/50
T2701
T2801
C2701 0.012
C2801 0.012
C2703 1/50
Q2801 2SC1815GR
R2802 12K
C2805 2200P
C2804 470P
R2702 12K
R2803 12K
R2804 2.2K
R2806 560K
R2805 270
IC202 LA3361
C2303 0.022
R2703 12K
C2705 2200P
C2704 470P
R2705 270
R2305 10K
R2706 560K
C2305 0.47/50
R2303 1K
C2306 1/50
TP206
C2307 1/50
D2301
R2304 56K
C2308 1/50
D2302
Q2701 2SC1815GR
R2704 2.2K
C2806 2700P
C2706 2700P
C2901 100/16
C2902 0.01
R2302 6.8K
SVR23 10K
C2304 1000P
TP207
C2707 1/50
C2807 1/50
R2463 56K
Q2302 RN2207
R2707 3.3K
R2807 3.3K
Q2802 2SC2878A
Q2702 2SC2878A
R2306 56K
Q2301 2SC1815GR
R2710 100K
R2810 100K

WIRING DIAGRAM (TUNER & FRONT)


TO CD MICON PCB
(CN131)
(CN132)
FRONT PCB
LED PCB (LCD BACK LIGHT)
TUNER PCB
FM ANT.
AM LOOP ANT.
BAND
TUN
MODE
PRESET
SET CLR
TU MEMO
DISC SKIP
PLAY/PAUSE
STOP
REPEAT
CD MEMO
RAND
COMP. REC
FADE
EDIT
TIMER
WAKE UP
SLEEP
CLOCK
TRACK SKIP
LCD21
IC251
CN251
CN252
CN253
1AD4B10B24000
CMKS-35EHB
92.6.23
DIP
LA3361
LM7001
LA1265-AUD
TU201
CN201
CN241
CMKS-35EHB
1AD4B10B23872

BLOCK DIAGRAM (CD)


IC105 DAC (D/A CONVERTER)
IC106 BUFFER AMPLIFIER
CD MAIN PCB
CN104
TO SYSCON PCB
X101 16.9344MHZ
IC104 DSP DIGITAL SIGNAL PROCESSOR
TP105 PLCK
Q102 PLL STABILIZER
TP101 RF
IC101 SSP SERVO SIGNAL PROCESSOR
IC102 PICK UP ACTUATOR COIL & MOTOR DRIVER
SLED MOT. DRIV.
SPINDLE MOT. DRIV.
T.COIL DRIV.
F.COIL DRIV.
TP102 FE
SVR101 TRAKING BAL.
Q101 LASER DRIVER
TP 3 TE
+5V
-5V
CN101
CN102
CN103
PICK UP
SPINDLE
SLED
LIMIT SW
OPEN SW
CD MECHANISM

ADJUSTMENT OF DECK & TORQUE

1. Amplifier Adjustment

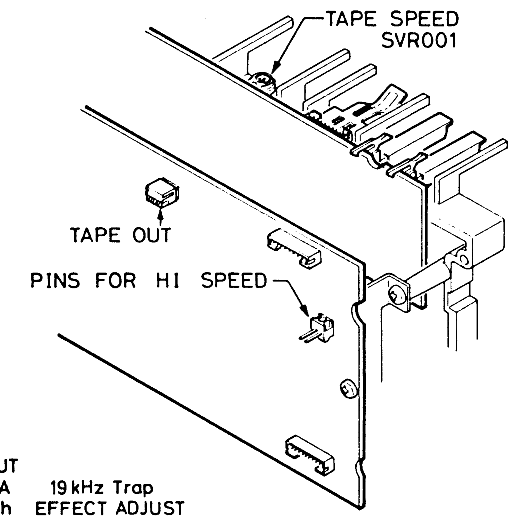
	ITEM	DECK	TEST TAPE	INPUT	DOLBY SW	OUTPUT	ADJUST POINT	REMARKS
1	Head Azimuth	DECK A DECK B	VTT738	-	OFF	TAPE OUT	Azimuth Screw	Adjust so as 10kHz output become maximum.
2	Playback Level	DECK A DECK B	TCC130	-	OFF	TAPE OUT	SVR30 (L-ch) SVR31 (R-ch) SVR32 (L-ch) SVR33 (R-ch)	Adjust so as TAPE OUT output become 0.54V.
3	Rec / Play Level	DECK A	AC224	1kHz -18dB	OFF	TAPE OUT	SVR34 (L-ch) SVR35 (R-ch)	Adjust SVR so as Monitor o/p = R/P Level = 0dB ± 1dB.
4	Rec / Play Frequency	DECK B	AC224	1kHz /10kHz -28dB	OFF	TAPE OUT	SVR36 (L-ch) SVR37 (R-ch)	R/P signal, set frequency characteristic 1kHz output to 0dB. Adjust SVR so as 10kHz output become ± 1dB.

Note. 1. During alignment, measurement Beat cancel SW is at 1 condition fundamentally, confirm Rec / Play frequency characteristic, dolby effect also by 2 condition, when ship out set SW to 1 position.

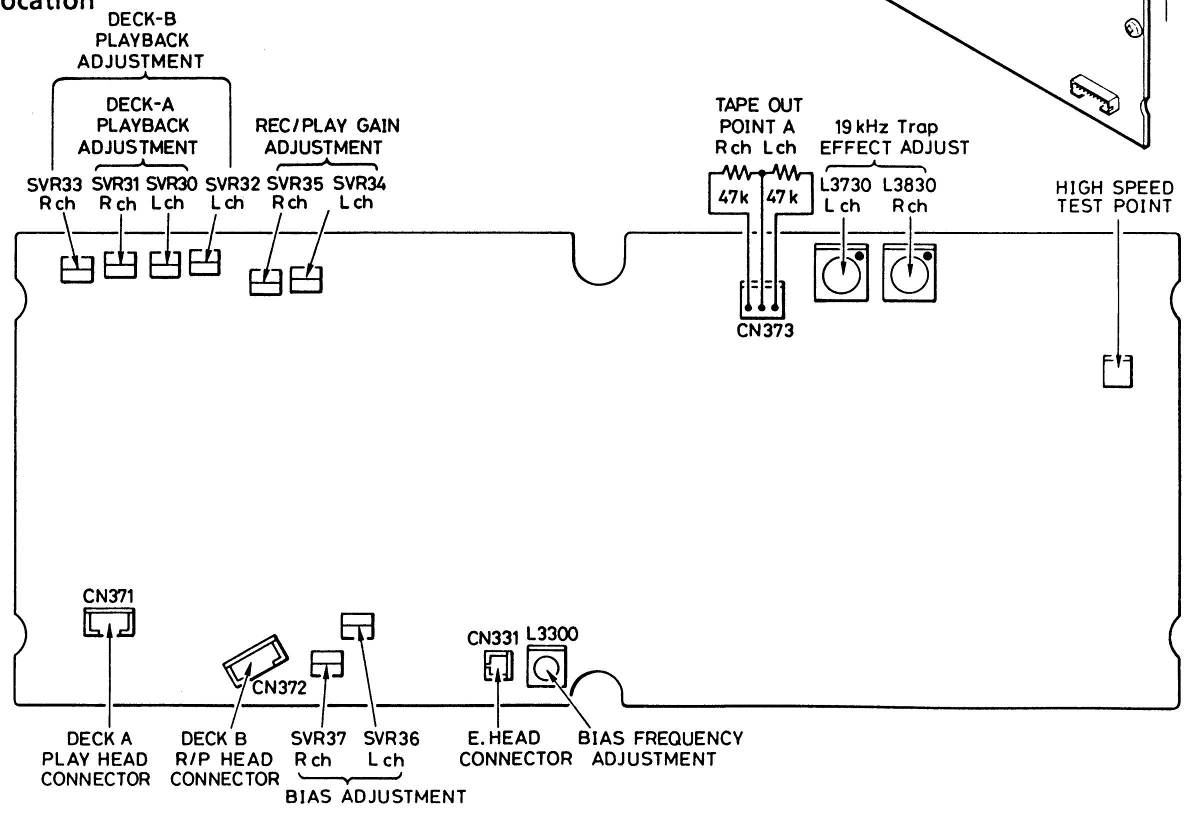
2. Tape Speed Adjustment

Connect the FREQUENCY COUNTER to TAPE OUT.

1. Insert the test tape(MTT-111N, etc. : 3000Hz) into the DECK A. Note : Set the test tape near the tape end.
2. Press the FWD PLAY button.
3. Adjust SVR001 so that a frequency counter reading of 3000 ± 5 Hz is obtained.
4. Press the STOP button, and eject the test tape.
5. Insert the test tape(TCW-211, etc. : 1500Hz) into the DECK A.
6. Insert the tape (C-60 Blank tape) into the DECK B.
7. Press the REC button of DECK B and press the DECK A / B button.
   Press the FWD PLAY button. Both mechanism become normal speed dubbing.
8. Short the high speed test pin to the high speed position.
   (The mechanism is high speed dubbing.)
9. Confirm that a frequency counter reading of 2700 ~ 3300Hz is obtained.


TAPE SPEED SVR001
TAPE OUT
PINS FOR HI SPEED

3. Parts Location


DECK-B PLAYBACK ADJUSTMENT
DECK-A PLAYBACK ADJUSTMENT
REC/PLAY GAIN ADJUSTMENT
SVR33 Rch
SVR31 Rch
SVR30 Lch
SVR32 Lch
SVR35 Rch
SVR34 Lch
TAPE OUT POINT A
Rch Lch
47k 47k
CN373
19kHz Trap EFFECT ADJUST
L3730 Lch
L3830 Rch
HIGH SPEED TEST POINT
CN371
CN372
CN331
L3300
DECK A PLAY HEAD CONNECTOR
DECK B R/P HEAD CONNECTOR
SVR37 Rch
SVR36 Lch
BIAS ADJUSTMENT
E.HEAD CONNECTOR
BIAS FREQUENCY ADJUSTMENT

ADJUSTMENT OF DECK & TORQUE

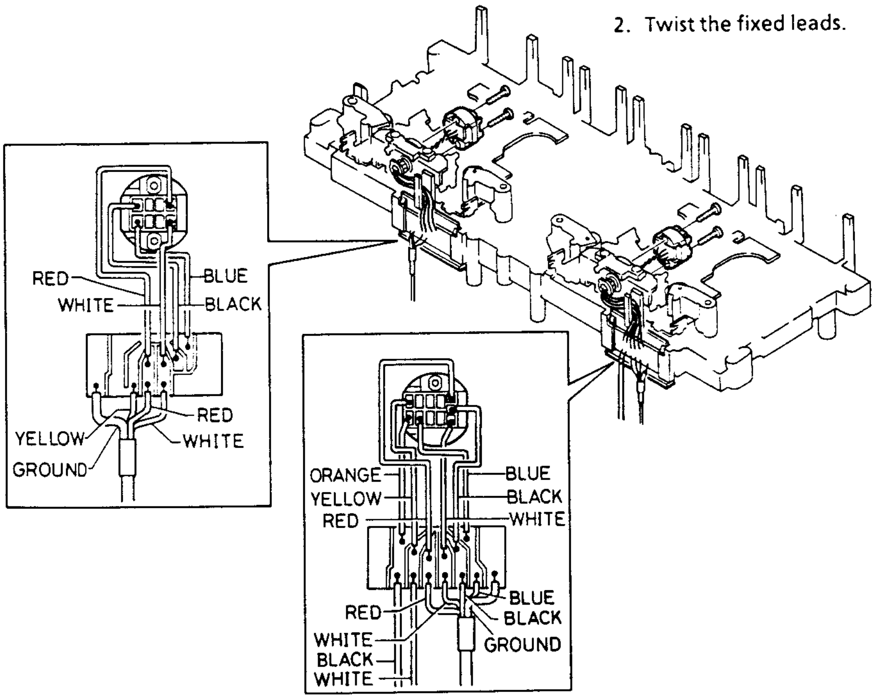
4. Torque Measurements

ITEM	TAKE-UP TORQUE	BACK TENSION	TAPE TENSION
Test cassette	PLAY :TW2111(FWD) PLAY :TW2121(REV) F.FWD / REW;TW2231	PLAY :TW2111(FWD) PLAY :TW2121(REV) REW:Torque Gage	Driving power cassette: TW-2412(FWD) TW-2422(REV)
PLAY	30 ~ 60gr.cm	2.0 ~ 5.0gr.cm	> 80g
F.FWD	70 ~ 140gr.cm	-	
REW	70 ~ 140gr.cm	-	

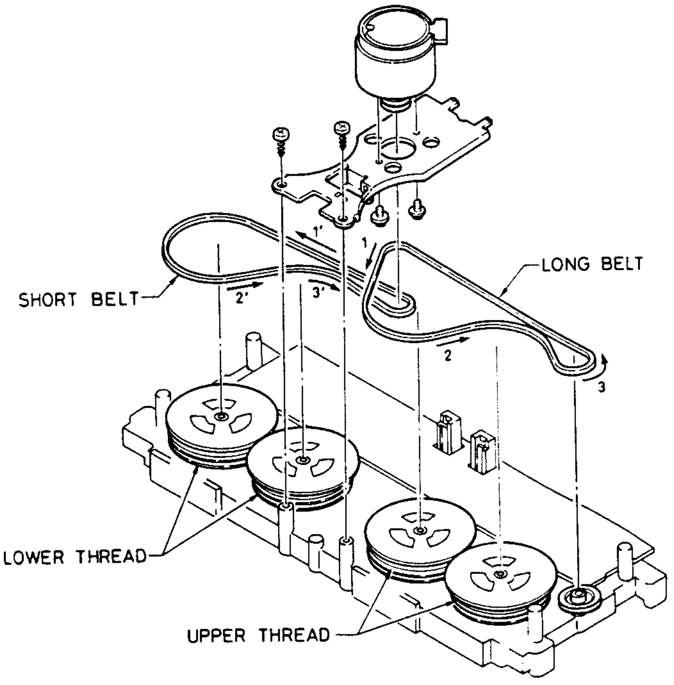
5. Replacement of Head

Lead Connection Method of Rotary Head

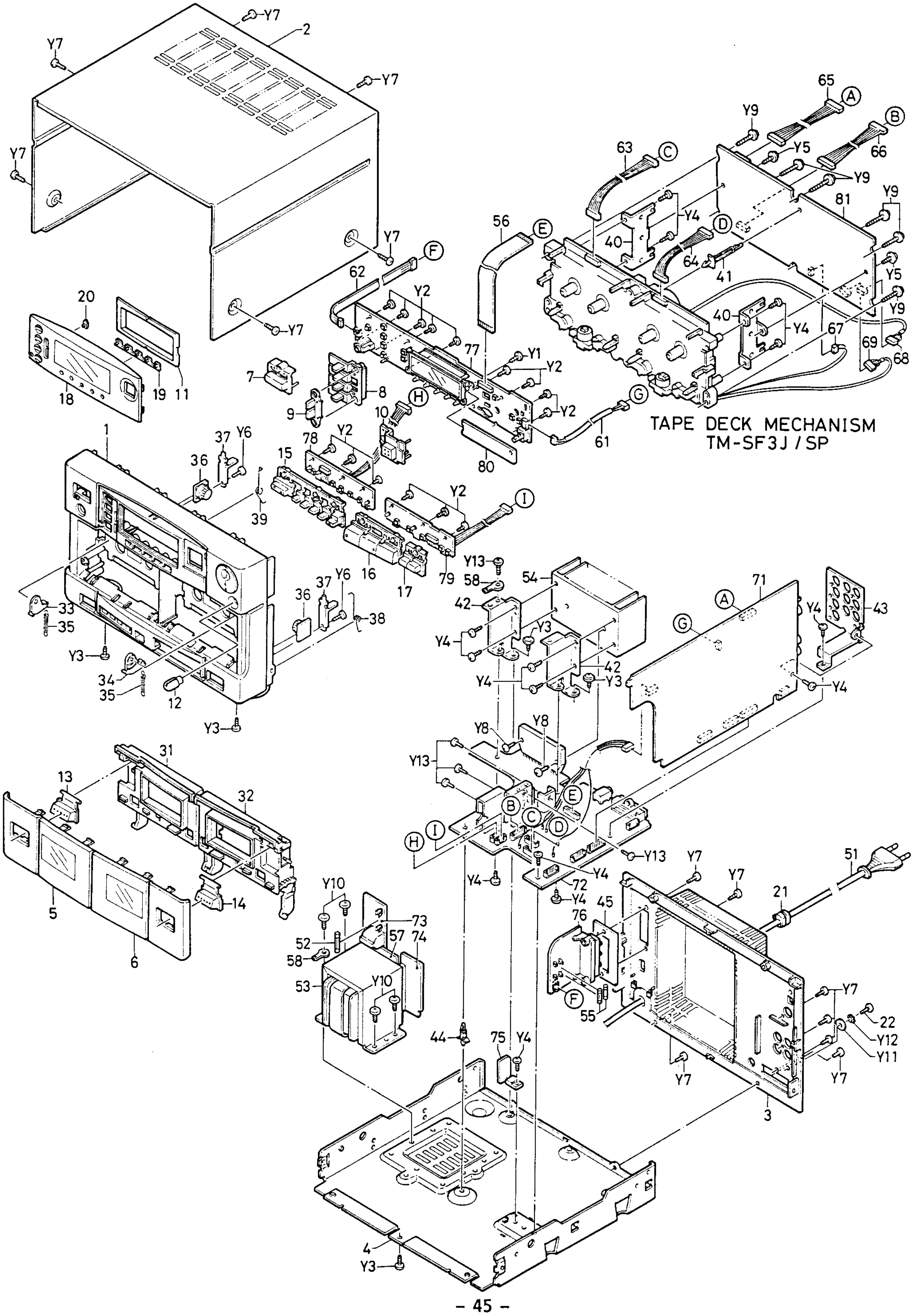
1. Fix the leads from the head at the stem with the rubber adhesives.
2. Twist the fixed leads.


RED
WHITE
BLUE
BLACK
RED
WHITE
YELLOW
GROUND
ORANGE
YELLOW
RED
BLUE
BLACK
WHITE
BLUE
BLACK
RED
WHITE
BLACK
WHITE
GROUND

6. Replacement of Motor and Belt


1'
1
SHORT BELT
LONG BELT
2'
3'
2
3
LOWER THREAD
UPPER THREAD

EXPLODED VIEW (TAPE DECK & AMPLIFIER UNIT)


Y7
2
Y7
Y7
Y7
Y7
Y7
65
A
B
Y9
Y5
66
Y9
63
C
81
Y9
Y4
D
56
E
F
40
64
41
Y5
Y9
62
Y2
40
Y4
67
69
68
20
77
Y1
Y2
11
19
18
7
8
H
Y2
9
10
TAPE DECK MECHANISM
TM-SF3J / SP
61
G
1
37
Y6
78
Y2
36
15
80
Y2
39
I
Y13
58
54
71
79
16
17
42
A
43
Y4
37
Y6
36
G
38
Y3
33
Y4
35
Y3
42
Y3
Y4
34
35
12
Y4
Y3
Y8
Y8
31
13
Y13
32
B
E
C
D
H
I
Y13
Y4
Y4
Y7
Y7
51
Y4
72
21
Y4
45
76
Y10
14
73
52
57
74
58
5
6
53
Y10
F
55
Y7
22
Y12
Y11
44
75
Y4
Y7
Y7
3
4
Y3

PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.

N.S.P : Not avairable as service parts.

CABINET

Ref. No.	Part No.	Description
1	614 244 2739	ASSY,PANEL,FRONT
2	614 240 0623	ASSY,CABINET,TOP
3	614 244 5273	ASSY,PANEL,REAR
4	614 238 9874	ASSY,CABINET,BOTTOM
5	614 244 2609	ASSY,COVER,TAPE A
6	614 244 2616	ASSY,COVER,TAPE B
7	614 241 7881	BUTTON,POWER
8	614 243 9081	ASSY,BUTTON,PRESET
9	614 243 9067	BUTTON,EQ
10	614 243 9050	BUTTON,FUNCTION
11	614 243 8749	ESCUTCHEON,LCD
12	614 243 9005	KNOB,ROTARY,BALANCE
13	614 243 9012	KNOB,LEVER,EJECT A
14	614 243 9029	KNOB,LEVER,EJECT B
15	614 243 9616	ASSY,BUTTON,REC
16	614 244 2777	ASSY,BUTTON,PLAY
17	614 243 9036	BUTTON,REW/F.FWD
18	614 246 8241	ASSY,ESCUTCHEON,LCD
19	614 243 8954	WINDOW,LED,FUNCTION
20	614 243 8961	WINDOW,LED,BASS
21	⚠ 614 129 1772	FIXER,AC CORD
22	412 003 2804	SPECIAL SCREW,PHONO GND

CHASSIS

Ref. No.	Part No.	Description
31	614 243 8480	ASSY,LID,CASSETTE,TAPE A
32	614 243 8497	ASSY,LID,CASSETTE,TAPE B
33	614 221 8983	LEVER,EJECT L
34	614 221 8990	LEVER,EJECT R
35	614 208 9606	SPRING,TENS,EJECT
36	614 244 8199	GEAR ASSY,CASSETTE DUMPER
37	614 239 0603	MOUNT-M,DUMP GEAR FIX
38	614 239 0689	SPRING WIRE,CASSETTE OPEN
39	614 241 2886	SPRING WIRE,CASSETTE OPEN
40	614 221 8839	BRACKET-E,DECK PCB
41	614 129 5558	FIXER,DECK PCB
42	614 239 0559	BRACKET-M,HEAT SINK
43	614 239 0634	SHIELD,RCA
44	614 129 5534	FIXER,MAIN PCB
45	614 246 2775	INSULATOR,SP SOCKET
	614 129 4971	FIXER,DRESS LEAD

FIXING PARTS

Ref. No.	Part No.	Description
Y01	411 021 3107	SCR S-TPG BIN 2.6X8
Y02	411 021 1806	SCR S-TPG BIN 2.6X10
Y03	411 020 9803	SCR S-TPG BRZ+FLG 3X6
Y04	411 021 6405	SCR S-TPG BIN 3X8
Y05	411 020 9902	SCR S-TPG BRZ+FLG 3X8
Y06	411 021 3503	SCR S-TPG BIN 3X10
Y07	411 021 3701	SCR S-TPG BIN 3X10
Y08	411 020 9407	SCR S-TPG BRZ+FLG 3X14
Y09	411 098 4403	SCR S-TPG BIN 3X25,MECHA
Y10	411 021 9604	SCR S-TPG BIM 4X8,P.T
Y11	411 105 9704	WASHER Z 3X10X1,PHONO GND
Y12	411 008 0402	WASHER OUT TW 3,PHONO GND
Y13	411 021 5705	SCR S-TPG BIN 3X6

ELECTRICAL PARTS

Ref. No.	Part No.	Description
51	⚠ 614 023 3100	POWER CORD,AC-IN
or	⚠ 614 023 3148	POWER CORD,AC-IN
52	⚠ 423 016 9803	FUSE 250V 0.63A, POWER(FU999)
53	⚠ 614 239 7305	POWER TRANSFORMER
54	⚠ 614 239 6834	HEAT SINK
55	⚠ 423 016 7908	FUSE 250V 2.5A, SPEAKER(FU701·801)
56	614 239 7381	CORD,17P,FRONT-MAIN(FFC)
57	614 234 9328	INSULATOR,PT-PRIMARY PCB
58	614 051 9808	LUG,EARTH
61	614 239 6643	ASSY,CONNECTOR-S,3P, FRONT-PRE
62	614 239 6650	ASSY,CONNECTOR-S,4P, FRONT-SP
63	614 243 1948	ASSY,CONNECTOR-S,8P, MAIN-MECHA.A(CN001)
64	614 243 1924	ASSY,CONNECTOR-S,8P, MAIN-MECHA.B(CN002)
65	614 243 1955	ASSY,CONNECTOR-S,9P, PRE-DECK(CN301)
66	614 243 1931	ASSY,CONNECTOR-S,9P, MAIN-DECK(CN302)
67	614 231 2599	ASSY,CONNECTOR-S,2P, E HEAD(CN341)
68	614 231 2575	ASSY,CONNECTOR-S,3P, P HEAD(CN381)
69	614 231 2582	ASSY,CONNECTOR-S,5P, R/P HEAD(CN382)

PRE-AMPLIFIER P.C.BOARD ASSY

Ref. No.	Part No.	Description
71	614 241 8659	ASSY,PCB,PRE-AMP.
C4012	403 135 3302	ELECT 1000U M 6.3V
C4516	403 139 9102	MT-POLYEST 0.082U J 63V
C4517	403 065 8200	MT-POLYEST 0.27U J 63V
C4518	403 139 8600	MT-POLYEST 0.033U J 63V
C4519	403 065 8002	MT-PLLYEST 0.1U J 63V
C4572	403 057 1905	POLYESTER 0.1U J 50V
C4573	403 057 1905	POLYESTER 0.1U J 50V
C4574	403 057 1905	POLYESTER 0.1U J 50V
C4575	403 062 6209	POLYESTER 0.056U J 50V
C4616	403 139 9102	MT-POLYEST 0.082U J 63V
C4617	403 065 8200	MT-POLYEST 0.27U J 63V
C4618	403 139 8600	MT-POLYEST 0.033U J 63V
C4619	403 065 8002	MT-PLLYEST 0.1U J 63V
C4672	403 057 1905	POLYESTER 0.1U J 50V
C4673	403 057 1905	POLYESTER 0.1U J 50V
C4674	403 057 1905	POLYESTER 0.1U J 50V
C4675	403 062 6209	POLYESTER 0.056U J 50V
CN301	614 017 2607	PLUG,9P,TO DECK
CN411	614 239 7244	SOCKET,10P,TO MAIN-AMP.
CN412	614 239 7220	SOCKET,8P,TO MAIN-AMP.

PARTS LIST

Ref. No.	Part No.	Description
CN413	614 239 7213	SOCKET,7P,TO MAIN AMP.
CN414	614 241 9441	SOCKET,6P,TO MAIN-AMP.
CN431	614 221 3360	SOCKET,4P,RCA,PHONO & VIDEO
CN432	614 239 5462	SOCKET,1P,RCA,EXT SP
CN441	614 017 2546	PLUG,3P,TO FRONT(VR)
CN491	614 017 2119	PLUG,4P,DECK MECHA
D4010	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4011	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4012	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4013	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4016	407 012 5809	DIODE 1SS176
or	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D4017	407 012 5809	DIODE 1SS176
or	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D4018	407 012 5809	DIODE 1SS176
or	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D4091	407 005 4505	DIODE DS442X
or	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473
D4350	407 053 6704	ZENER DIODE MTZ5.6B
D4450	407 053 6704	ZENER DIODE MTZ5.6B
D4500	407 053 6308	ZENER DIODE MTZ5.1B
D4501	407 053 7701	ZENER DIODE MTZ6.8C
D4502	407 053 7701	ZENER DIODE MTZ6.8C
IC701	409 018 4909	IC LA6458S
IC702	409 003 9308	IC BU4051B
IC703	409 018 4909	IC LA6458S
IC704	409 018 4909	IC LA6458S
IC705	409 088 4007	IC LC7522
IC706	409 018 4909	IC LA6458S
IC708	409 053 0409	IC TC9153AP
IC709	409 018 4909	IC LA6458S
IC711	409 018 4909	IC LA6458S
IC802	409 003 9308	IC BU4051B
Q4001	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4002	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4091	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
or	405 002 1305	TR 2SA1048-Y
Q4092	405 033 6805	TR 2SD1468S-S
or	405 021 0600	TR 2SD1012-G-SPA
Q4301	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
Q4302	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4303	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
Q4304	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
Q4305	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4306	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4307	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4308	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q4309	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q4504	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4505	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4506	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4507	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4508	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4509	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4510	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4570	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4571	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4604	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4605	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4606	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4607	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4608	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4609	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4610	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4670	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4671	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
RA450	614 218 0464	RESISTOR,100K X8
or	614 209 3696	RESISTOR,100K X8
RA451	614 218 0464	RESISTOR,100K X8
or	614 209 3696	RESISTOR,100K X8
S3101	614 012 4316	SWITCH,BEAT CANCEL
or	614 023 8297	SWITCH,BEAT CANCEL
S4302	614 215 9828	SWITCH,TACT,RESET

MAIN-AMPLIFIER P.C.BOARD ASSY

Ref. No.	Part No.	Description
72	614 241 8666	ASSY,PCB,MAIN-AMP.
C4907	403 053 4405	ELECT 2200U M 35V
C4908	403 053 4405	ELECT 2200U M 35V
C4925	403 053 4405	ELECT 2200U M 35V
C5000	403 135 3302	ELECT 1000U M 6.3V
CN001	614 017 2591	PLUG,8P,TO MECHA. A
CN002	614 228 0911	PLUG,8P,TO MECHA. B
CN302	614 236 4277	PLUG,9P,TO DECK-AMP.
CN321	614 220 2739	PLUG,6P,TO FRONT SW1
CN322	614 017 2577	PLUG,6P,TO FRONT SW2
CN492	614 245 3032	ASSY,CONNECTOR-S,4P,
CN500	614 241 0530	SOCKET,17P,TO FRONT(FFC)
CN802	614 020 1239	SOCKET,4P,TO SP TERMINAL
CN850	614 020 6555	SOCKET,3P,TO REGULATOR IC
or	614 223 9216	SOCKET,3P,TO REGULATOR IC

PARTS LIST

Ref. No.	Part No.	Description
CN870	614 020 6579	SOCKET,5P,TO P.T SEC
or	614 223 9230	SOCKET,5P,TO P.T SEC
CN871	614 020 1222	SOCKET,3P,TO P.T PRI
CN900	614 239 5455	SOCKET,19P,TO CD/TUNER UNIT
CN911	614 239 7176	PLUG,10P,TO PRE-AMP
CN912	614 239 7152	PLUG,8P,TO PRE-AMP
CN913	614 239 7145	PLUG,7P,TO PRE-AMP
CN914	614 241 9434	PLUG,6P,TO PRE-AMP
D4741	407 053 3208	ZENER DIODE MTZ12B
D4900	⚠ 407 077 7800	DIODE RBV-402LF-A
or	⚠ 407 146 3306	DIODE RBA-402LF-A
D4901	⚠ 407 012 3300	DIODE 1SR35-200A
D4902	⚠ 407 012 3300	DIODE 1SR35-200A
D4903	⚠ 407 012 3300	DIODE 1SR35-200A
D4904	⚠ 407 012 3300	DIODE 1SR35-200A
D4905	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4911	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4912	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4913	407 053 3802	ZENER DIODE MTZ15C
D4950	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4951	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4952	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4953	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D5000	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D5005	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D5006	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
D5007	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
D5200	407 053 6308	ZENER DIODE MTZ5.1B
D5201	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D5202	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D5300	407 053 6704	ZENER DIODE MTZ5.6B
D5301	407 053 6704	ZENER DIODE MTZ5.6B
HS401	⚠ 614 203 7362	HEAT SINK, FOR IC900
HS402	⚠ 614 203 7362	HEAT SINK, FOR IC903
HS403	⚠ 614 121 5891	HEAT SINK, FOR Q4903
HS404	⚠ 614 121 5891	HEAT SINK, FOR Q4904
IC500	410 150 9608	IC UPD75516GF-412-3B9
IC501	409 275 5107	IC BA3826S
IC700	⚠ 409 047 0200	IC STK4132MK2
IC900	⚠ 409 027 1005	IC L780S12
IC901	⚠ 409 169 7804	IC NJM78M05FA
or	⚠ 409 057 6407	IC UPC78M05H
or	⚠ 409 026 8500	IC L78M05
IC903	⚠ 409 027 1005	IC L780S12
Q4720	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q4721	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q4740	⚠ 405 015 1606	TR 2SC2655-Y
Q4741	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4742	405 035 1600	TR RN1211
or	405 107 8704	TR BA1A4Z
or	405 000 3400	TR DTC114TS
Q4820	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q4821	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q4901	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4902	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4903	⚠ 405 077 9008	TR TIP29B
Q4904	⚠ 405 078 8109	TR TIP32B
Q4905	405 001 7209	TR 2SA1015-Y
Q4906	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q5001	405 035 1600	TR RN1211
or	405 107 8704	TR BA1A4Z
Q5003	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
Q5004	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
Q5005	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
Q5006	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q5007	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q5008	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q5200	405 091 4201	TR BN1L4Z
or	405 075 7600	TR DTA114TS
Q5201	405 057 7604	TR 2SA1175-FF
or	405 002 1107	TR 2SA1048-GR
or	405 002 5402	TR 2SA1175-EF
Q5202	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
or	405 000 3103	TR DTC114ES
R4706	401 008 7204	CARBON 2.2K JB 1/2W
R4741	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R4806	401 008 7204	CARBON 2.2K JB 1/2W
R4841	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R4844	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R4909	⚠ 402 065 0702	FUSIBLE RES 33 JS 1/2W
R4910	⚠ 402 065 0702	FUSIBLE RES 33 JS 1/2W
RA500	614 217 1318	RESISTOR,10K X6
or	614 209 3641	RESISTOR,10K X6
RA501	614 209 3580	RESISTOR,10K X3
or	614 217 1288	RESISTOR,10K X3
RA502	614 217 1318	RESISTOR,10K X6
or	614 209 3641	RESISTOR,10K X6
RA503	614 209 3627	RESISTOR,10K X5
or	614 217 1301	RESISTOR,10K X5
X5000	614 215 5523	RESONATOR,4.19MHHZ,IC500

PARTS LIST

P.T PRIMARY P.C.BOARD ASSY

Ref. No.	Part No.	Description
73	614 241 8673	ASSY,PCB,P.T-PRI
	⚠ 614 017 8203	TERMINAL BOARD,AC-IN
FCLP5	⚠ 614 208 4540	FUSE HOLDER,FU999
FCLP6	⚠ 614 208 4540	FUSE HOLDER,FU999
L9999	⚠ 614 229 0422	INDUCTOR,FERITE,AC LINE

P.T SECONDARY P.C.BOARD ASSY

Ref. No.	Part No.	Description
74	614 241 8680	ASSY,PCB,P.T-SEC
CN770	614 020 6579	SOCKET,5P,TO MAIN-AMP.
or	614 223 9230	SOCKET,5P,TO MAIN-AMP.
CN771	614 020 1222	SOCKET,3P,TO MAIN-AMP.
ICP51	⚠ 614 205 2921	IC PROTECTOR ICP-N38
ICP52	⚠ 614 205 2921	IC PROTECTOR ICP-N38
R4997	⚠ 402 044 1607	RESISTOR 0.33 J- 1/2W
R4998	⚠ 402 044 1607	RESISTOR 0.33 J- 1/2W
R4999	⚠ 402 045 1507	RESISTOR 0.47 J- 1W

REGULATOR IC P.C.BOARD ASSY

Ref. No.	Part No.	Description
75	614 241 8697	ASSY,PCB,REG.-IC
CN750	614 020 6555	SOCKET,3P,MAIN-AMP.
or	614 223 9216	SOCKET,3P,MAIN-AMP.
IC902	⚠ 409 122 6202	IC NJM7812FA
or	⚠ 409 078 2402	IC L7812ML
or	⚠ 409 168 2107	IC UPC7812HF
or	⚠ 409 001 7603	IC AN7812F

SPEAKER TERMINAL P.C.BOARD ASSY

Ref. No.	Part No.	Description
76	614 241 8703	ASSY,PCB,SP TERMINAL
	614 051 9808	LUG,EARTH
C4170	403 057 0403	POLYESTER 0.01U K 50V
C4171	403 062 5103	POLYESTER 5600P K 50V
C4172	403 062 5103	POLYESTER 5600P K 50V
CN700	614 239 1655	TERMINAL,4P,SPEAKER
CN701	614 017 2553	PLUG,4P,TO FRONT
CN702	614 020 1239	SOCKET,4P,TO MAIN-AMP.
D4750	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
FCLP1	614 208 4540	FUSE HOLDER,FOR FU701
FCLP2	614 208 4540	FUSE HOLDER,FOR FU701
FCLP3	614 208 4540	FUSE HOLDER,FOR FU801
FCLP4	614 208 4540	FUSE HOLDER,FOR FU801
R4750	401 010 5908	CARBON 5.6 JB 1/2W
R4751	401 009 5506	CARBON 330 JB 1/2W
R4850	401 010 5908	CARBON 5.6 JB 1/2W
R4851	401 009 5506	CARBON 330 JB 1/2W
RY700	614 242 7767	RELAY,SPEAKER

FRONT P.C.BOARD ASSY

Ref. No.	Part No.	Description
77	614 247 3184	ASSY,PCB,FRONT
	614 241 9151	REFLECTOR,LCD
	614 238 8037	SHEET,LCD
CN551	614 241 0752	SOCKET,17P,TO MAIN-AMP.
CN553	614 017 3833	PLUG,4P,TO SP TERMINAL
CN554	614 239 6193	JACK,PHONE
CN555	614 017 3826	PLUG,3P,TO PRE-AMP.
D5501	408 017 5801	LED SLZ-981C-15-T2,STAND BY
D5502	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D5503	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D5511	408 016 1002	LED SLZ-181C-15-T2,VIDEO
D5512	408 016 1002	LED SLZ-181C-15-T2,PHONO
D5513	408 016 1002	LED SLZ-181C-15-T2,TUNER
D5514	408 016 1002	LED SLZ-181C-15-T2,TAPE
D5515	408 016 1002	LED SLZ-181C-15-T2,CD
D5516	408 016 1101	LED SLZ-381C-15-T2,D'BASS
IC551	409 088 6209	IC LC7582
LCD51	614 238 3254	LCD(LIQUID CRYSTAL DISPLAY)
Q5501	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
or	405 000 3103	TR DTC114ES
Q5502	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q5503	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
S5501	614 220 5648	SWITCH,TACT,POWER
S5502	614 220 5648	SWITCH,TACT,FUNCTION
S5511	614 220 5648	SWITCH,TACT,VOLUME DOWN
S5512	614 220 5648	SWITCH,TACT,VOLUME UP
S5514	614 220 5648	SWITCH,TACT,EQ-
S5515	614 220 5648	SWITCH,TACT,BASS EXPANDER
S5516	614 220 5648	SWITCH,TACT,DISPLAY
S5517	614 220 5648	SWITCH,TACT,FREQ/MEMO
S5518	614 220 5648	SWITCH,TACT,PRESET
S5519	614 220 5648	SWITCH,TACT,EQ+
VR551	614 239 7336	VR,ROTARY,BALANCE,100K(W)

FRONT SWITCH 1 P.C.BOARD ASSY

Ref. No.	Part No.	Description
78	614 241 8741	ASSY,PCB,FRONT SW 1
CN322	614 243 0903	ASSY,CONNECTOR-S,6P, TO MAIN-AMP
D3203	408 013 2903	LED SLZ-181C-09-A-T1,REC
or	408 013 3009	LED SLZ-181C-09-B-T1,REC
D3204	408 008 4806	LED SLP-381C-51-AB,TAPE A
D3205	407 109 4203	LED SLP-181C-51-A,TAPE B
or	407 109 4104	LED SLP-181C-51-B,TAPE B
Q3201	405 000 0508	TR DTA114ES
or	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q3202	405 000 0508	TR DTA114ES
or	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
S3206	614 240 4539	SWITCH,TACT,A/B
S3207	614 220 5631	SWITCH,TACT,DIR
S3208	614 220 5631	SWITCH,TACT,DOLBY
S3209	614 220 5631	SWITCH,TACT,DUB
S3210	614 220 5631	SWITCH,TACT,REC MUTE
S3211	614 240 4539	SWITCH,TACT,REC

FRONT SWITCH 2 P.C.BOARD ASSY

Ref. No.	Part No.	Description
79	614 247 8011	ASSY,PCB,FRONT SW2
CN321	614 243 0897	ASSY,CONNECTOR-S,6P, TO MAIN-AMP.
D3201	408 013 3207	LED SLZ-381C-09-A-T1,FOW

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Ref. No.	Part No.	Description
or	408 013 3306	LED SLZ-381C-09-B-T1,FOW
D3202	408 013 3207	LED SLZ-381C-09-A-T1,REV
or	408 013 3306	LED SLZ-381C-09-B-T1,REV
S3201	614 220 5631	SWITCH,TACT,STOP
S3202	614 220 5631	SWITCH,TACT,FOW
S3203	614 220 5631	SWITCH,TACT,REV
S3204	614 220 5631	SWITCH,TACT,F.F
S3205	614 220 5631	SWITCH,TACT,REW

LED (LCD BACK LIGHT) P.C.BOARD ASSY

Ref. No.	Part No.	Description
80	614 239 9095	ASSY,PCB,LED
CN562	614 242 9488	ASSY,CONNECTOR-S,2P,TO FRONT
D5551	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5552	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5553	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5554	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5555	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5556	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5557	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5558	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5559	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5560	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5561	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5562	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5563	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5564	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5565	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5566	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5567	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH

Ref. No.	Part No.	Description
D5568	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5569	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5570	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL

TAPE DECK AMPLIFIER P.C.BOARD ASSY

Ref. No.	Part No.	Description
81	614 241 8550	ASSY,PCB,DECK-AMP
	614 117 1098	SHIELD PLATE
C3303	403 058 2406	POLYESTER 0.015U J 50V
C3304	403 058 1102	POLYESTER 1500P K 50V
CN301	614 017 2607	PLUG,9P,TO PRE-AMP.
CN302	614 239 9378	PLUG,9P,TO MAIN-AMP.
CN303	614 016 4084	PLUG,2P,HIGH SPEED
CN331	614 017 2539	PLUG,2P,E HEAD
CN371	614 017 2553	PLUG,4P,P HEAD
CN372	614 017 2560	PLUG,5P,R/P HEAD
CN373	614 035 5949	SOCKET,3P,TAPE OUT
D3101	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3102	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3103	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3104	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3105	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
D3106	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
HS301	614 211 3592	HEAT SINK,BIAS LEAK
IC351	409 270 2101	IC HA12136AT
or	409 199 1209	IC HA12136A
IC370	409 121 8702	IC LA3246
IC371	409 207 1900	IC MLC4066B
or	409 003 9506	IC BU4066B
or	409 051 3501	IC TC4066BP
or	409 059 2605	IC UPD4066BC
IC374	409 214 1900	IC CXA1298AP
IC375	409 145 8405	IC UPC1330HA
L3300	614 221 8280	TRANS,OSC
L3501	614 029 3807	MX COIL,85KHZ
L3551	614 029 3807	MX COIL,85KHZ
L3700	614 028 4379	FILTER,1000UH
L3731	614 210 3685	INDUCTOR,FERITE,3.3MH
L3750	614 029 3142	MX COIL,85KHZ
L3800	614 028 4379	FILTER,1000UH
L3831	614 210 3685	INDUCTOR,FERITE,3.3MH
L3850	614 029 3142	MX COIL,1000UH
Q3101	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3102	405 000 2205	TR DTA144ES
or	405 078 2107	TR BN1L4M
or	405 103 9705	TR AN1L4M
or	405 001 1306	TR RN2204
Q3103	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M

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Ref. No.	Part No.	Description
or	405 001 0408	TR RN1204
Q3104	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3105	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3106	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3107	405 000 2205	TR DTA144ES
or	405 078 2107	TR BN1L4M
or	405 103 9705	TR AN1L4M
or	405 001 1306	TR RN2204
Q3108	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3109	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3160	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3161	405 000 2205	TR DTA144ES
or	405 078 2107	TR BN1L4M
or	405 103 9705	TR AN1L4M
or	405 001 1306	TR RN2204
Q3300	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q3301	405 011 1907	TR 2SC1627-Y
Q3302	405 001 7001	TR 2SA1015-GR
or	405 005 2002	TR 2SA733-P
Q3303	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
or	405 011 8609	TR 2SC1740S-S
Q3730	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
or	405 011 8609	TR 2SC1740S-S
Q3830	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
or	405 011 8609	TR 2SC1740S-S
SVR30	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR31	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR32	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR33	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR34	614 003 6183	SEMI-FIXED V.R,10K(B)
SVR35	614 003 6183	SEMI-FIXED V.R,10K(B)
SVR36	614 003 6213	SEMI-FIXED V.R,50K(B)
SVR37	614 003 6213	SEMI-FIXED V.R,50K(B)

PARTS LIST

TAPE DECK MECHANISM (TM-SF3J/SP)

Ref. No.	Part No.	Description
TM01	614 219 9657	ASSY,CHASSIS,TAPE DECK
TM02	614 195 9139	SPRING PLATE,CASETTE PRES
TM03	614 219 9671	ASSY,FLYWHEEL,REV,D2.0
TM04	614 219 9688	ASSY,FLYWHEEL,NOR,D2.2
TM05	412 034 4709	SPECIAL WASHER,REV FW FIX
TM06	412 014 3005	SPECIAL WASHER,NOR FW FIX
TM07	412 029 8200	SPECIAL WASHER,REV OIL PRF
TM08	412 012 7005	SPECIAL WASHER,NOR OIL PRF
TM09	614 219 9596	ASSY,COMMUTATE MOTOR
TM10	614 223 8677	BRACKET-E,MOTOR
TM11	614 219 9954	BELT,SQUARE,A-MECHA DRIVE
TM12	614 219 9961	BELT,SQUARE,B-MECHA DRIVE
TM13	614 195 8644	PULLEY,BELT DUMMY
TM14	412 022 0607	SPECIAL WASHER,D.PULLEY
TM15	614 220 0001	LEVER,PLAY GEAR
TM16	614 220 1657	ASSY,GEAR,PLAY CLUTCH
TM17	614 220 0261	PIPE,PLAY SLIP FIX
TM18	614 224 5293	CUSHION,BELT TUTCH(B)
TM19	614 224 5309	CUSHION,BELT TUTCH(A)
TM20	614 236 5397	SPRING,TENS,PLAY LEVER RSET
TM21	614 219 9817	GEAR,RELAY FIXED
TM22	614 220 0261	PIPE,GEAR FIX
TM23	614 220 1664	ASSY,GEAR,TAKE UP MOVE
TM24	614 220 0025	LEVER,TAKE UP MOVE B
TM25	614 220 1268	SPRING,WIRE,B MECHA REEL CHANGE CLIC
TM26	614 219 9848	GEAR,REEL RELAY
TM27	614 219 9831	GEAR,REEL
TM28	614 219 9886	REEL,RIGHT
TM29	614 219 9893	REEL,LEFT
TM30	614 220 1251	SPRING,COMP,BACK TENSION L
TM31	614 219 9695	ASSY,LEVER,PINCH,LEFT
TM32	614 219 9701	ASSY,LEVER,PINCH,LIGHT
TM33	614 229 7520	SPRING,WIRE,PINCH LEFT
TM34	614 220 1275	SPRING,WIRE,PINCH RIGHT
TM35	614 220 0070	LEVER,BRAKE R
TM36	614 220 0087	LEVER,BRAKE L
TM37	614 220 0162	SLIDE,DOOR LOCK A
TM38	614 220 0179	SLIDE,DOOR LOCK B
TM39	614 220 0247	SLIDE,EJECT RELAY A
TM40	614 220 0254	SLIDE,EJECT RELAY B
TM41	614 220 1190	SPRING,TENS,EJECT RELAY
TM42	614 220 0339	MAGNETIC COIL,SOLENOID
TM43	614 220 1626	ASSY,PCB,MECHA
TM44	614 219 9770	SHIELD,HEAD PCB
TM45	614 222 8968	PCB,P LEAD RELAY
TM46	614 222 8975	PCB,R/P LEAD RELAY
TM47	614 220 0148	LEVER,D.SLIDE LOCK
TM48	614 220 1312	SPRING,WIRE,LOCK LEVER
TM49	614 232 5414	LEVER,HEAD SLIDE UP A
TM50	614 220 0131	LEVER,HEAD SLIDE UP B
TM51	614 220 1688	ASSY,SLIDE,HEAD
TM52	614 220 1329	SPRING,WIRE,HEAD SLIDE
TM53	614 220 1183	SPRING,TENS,HEAD SILED CONT
TM54	614 219 9763	GUIDE,TAPE
TM55	614 220 1633	ASSY,BRACKET-E,HEAD LOCATE
TM56	614 220 0292	HEAD,REC/PLAY
TM57	614 220 0308	HEAD,PLAY
TM58	614 220 4900	GEAR,HEAD ROTARY
TM59	412 012 7609	SPECIAL WASHER,HEAD THRUST
TM60	614 220 0063	LEVER,SECTOR
TM61	614 220 1336	SPRING,WIRE,HEAD CLIC
TM62	614 226 5543	SPRING,COMP,AZIMUTH COIL
TM63	412 031 2005	SPECIAL SCREW,AZIMUTH BISS
TM64	614 221 8235	SPRING,WIRE,HEAD SLIDE GND
TM65	614 219 9992	LEVER,R/F A
TM66	614 220 0032	LEVER,R/F B
TM67	614 219 9855	GEAR,R/F MOVE
TM68	614 220 0261	PIPE,R/F MOVE GEAR FIX
TM69	614 219 9879	GEAR,D.CAM
TM70	614 220 0049	LEVER,MAIN TRIGGER
TM71	614 220 0056	LEVER,SUB TRIGGER
TM72	614 223 8745	SLIDE,DRIVE
TM73	614 220 1299	SPRING,WIRE,D.SLIDE RESET
TM74	614 220 0186	SLIDE,A/B MECHA CHANGE
TM75	614 229 7506	SPRING,TENS,CHANGE SLIDE
TM76	614 229 7513	SPRING,TENS,TRIGGER INNER FORCE
TM77	614 219 9718	ASSY,SLIDE,HEAD CHANGE
TM78	614 220 1305	SPRING,WIRE,CHANGE SLIDE
TM79	614 220 0209	SLIDE,REEL CHANGE NO.1
TM80	614 219 9725	ASSY,SLIDE,REEL CHANGE NO.2
TM81	614 220 0346	SWITCH,LEAF,PACK1,S003
or	614 220 0346	SWITCH,LEAF,PACK2,S004
or	614 220 0346	SWITCH,LEAF,CROM1,S005
or	614 220 0346	SWITCH,LEAF,CROM2,S006
or	614 220 0346	SWITCH,LEAF,URFWD,S007
or	614 220 0346	SWITCH,LEAF,URREV,S008
TM82	614 225 6916	CUSHION,RUBBER,SILEN
TM83	614 226 6854	CUSHION,RF LEVER TOUTCH
TM84	614 229 1313	CUSHION,RUBBER,DRIVE SLIDE WIRE STOPPER
TM85	614 228 5053	CUSHION,RUBBER,H.S. STOPPER
TM86	614 228 2311	CUSHION,RF LEVER,SILEN

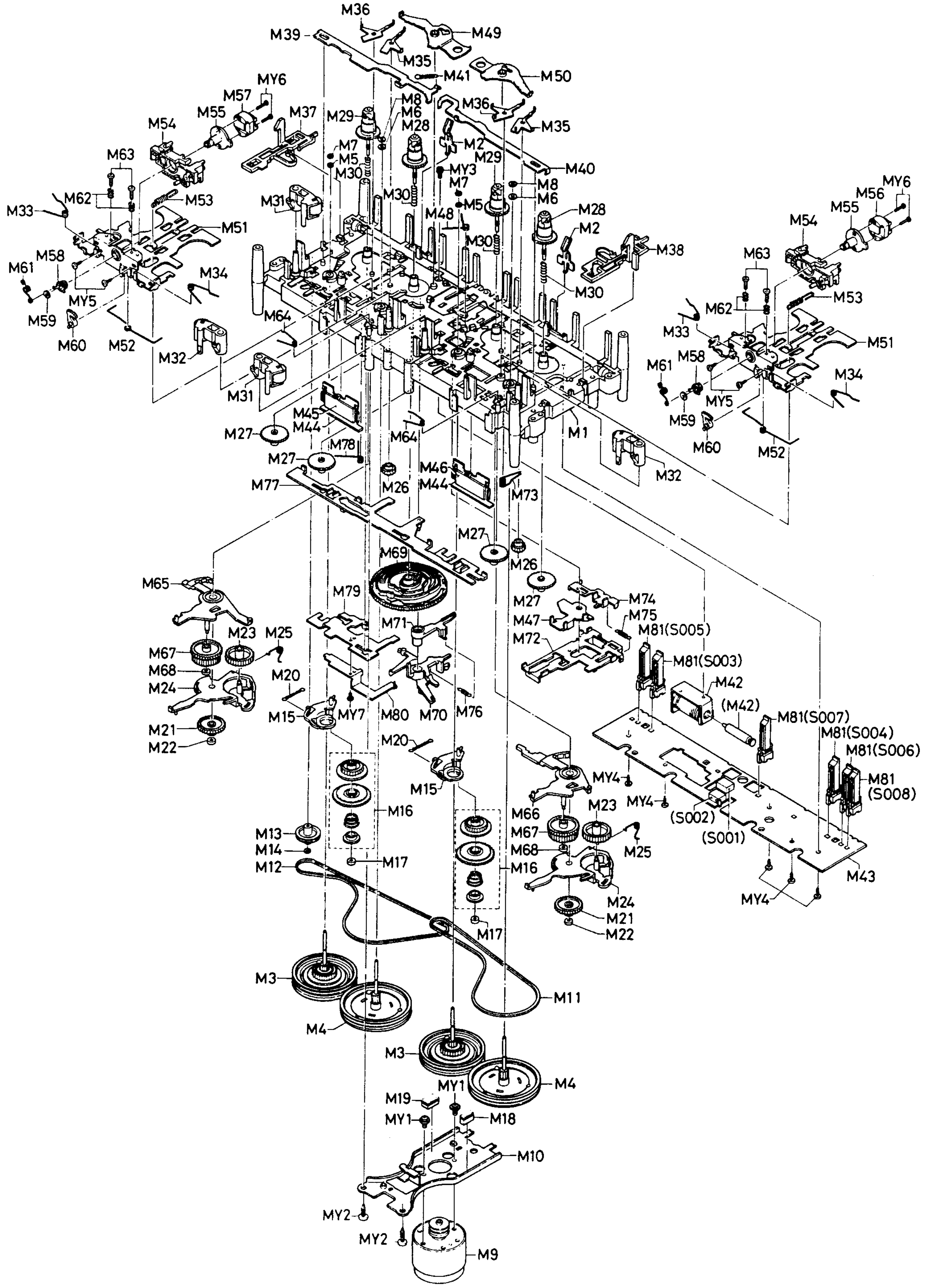
FIXING PARTS FOR TAPE DECK MECHANISM

Ref. No.	Part No.	Description
TY01	411 102 6300	SCR PAN-FLG 2.6X2.8, MOTOR
TY02	411 021 6405	SCR S-TPG BIN 3X8, B-MOTOR
TY03	411 044 7205	SCR PAN+SW 2X4, SOLENOID
TY04	411 021 0809	SCR S-TPG BIN 2X6
TY05	411 022 7807	SCR S-TPG PAN 2X6,TAPE GUID
TY06	411 124 9204	SCR PAN PCS 1.6X6, HEAD FIX
TY07	411 018 6401	SCR PAN PCS 2X2, REEL CH SLIDE NO.2

TAPE DECK MECHANISM P.C.BOARD ASSY

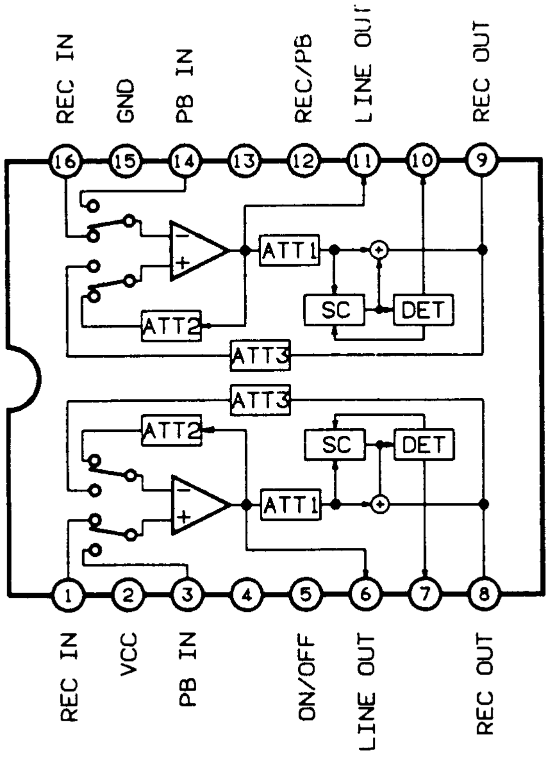
Ref. No.	Part No.	Description
TM43	614 220 1626	ASSY,PCB,MECHANISM
CN001	614 017 3871	PLUG,8P,CN001,TAPE A
CN002	614 235 3646	PLUG,8P,CN002,TAPE B
CN003	614 035 4935	SOCKET,4P,CN003,TO MOTOR
D001	407 004 9105	DIODE DSF10C
or	407 012 3300	DIODE 1SR35-200A
D002	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D003	407 051 6706	ZENER DIODE GZS5.1Y
or	407 053 6308	ZENER DIODE MTZ5.1B
PH001	407 131 9900	PHOTO COUPLE SPI-335-34-C
PH002	407 131 9900	PHOTO COUPLE SPI-335-34-C
ICP01	614 205 2884	IC PROTECTOR ICP-N10
Q001	⚠ 405 099 0908	TR 2SB621-S
Q002	405 002 1107	TR 2SA1048-GR
or	405 006 1905	TR 2SA933S-S
Q003	⚠ 405 099 0908	TR 2SB621-S
S001	614 224 2575	SWITCH,LEVER,PLAY
S002	614 224 2575	SWITCH,LEVER,STOP
SV001	614 003 6190	SEMI-FIXED V.R,20K(B)

EXPLODED VIEW (TAPE DECK MECHANISM)


M36
M39
M49
M35
M41
M50
MY6
M57
M8
M36
M55
M37
M29
M6
M28
M35
M54
M2
M7
M5
M30
MY3
M29
M40
M63
M7
M8
M62
M53
M30
M31
M5
M6
MY6
M33
M48
M28
M56
M51
M30
M2
M55
M54
M58
M38
M61
M63
M34
MY5
M64
M30
M53
M59
M62
M60
M52
M32
M33
M51
M61
M58
M31
M34
M45
MY5
M44
M59
M27
M64
M1
M60
M52
M78
M27
M46
M32
M26
M44
M77
M73
M27
M69
M26
M65
M79
M27
M74
M75
M71
M47
M81(S005)
M23
M25
M72
M67
M81(S003)
M68
M20
M42
M24
(M42)
M81(S007)
M15
MY7
M80
M70
M76
M21
M81(S004)
M81(S006)
M22
M20
MY4
M81
(S008)
M15
MY4
M16
M66
M23
(S002)
M13
M67
M14
M68
(S001)
M25
M12
M17
M16
M43
M24
MY4
M21
M17
M22
M3
M11
M4
M3
M4
MY1
M19
MY1
M18
M10
MY2
MY2
M9

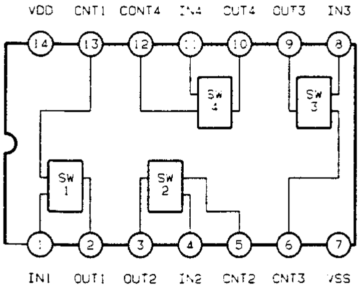
IC BLOCK DIAGRAM (TAPE DECK)

IC351 HA12136A (Dolby-B Noise Reduction System)



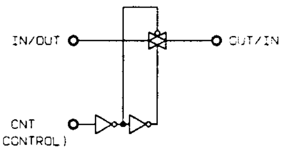
REC IN
GND
PB IN
REC/PB
LINE OUT
REC OUT
16
15
14
13
12
11
10
9
ATT1
ATT2
ATT3
SC
DET
ATT3
ATT2
SC
DET
ATT1
1
2
3
4
5
6
7
8
REC IN
VCC
PB IN
ON/OFF
LINE OUT
REC OUT

IC371 MLC4066B (Quad Electronic Switch)



VDD
CNT1
CONT4
IN4
OUT4
OUT3
IN3
14
13
12
11
10
9
8
SW 4
SW 3
SW 1
SW 2
1
2
3
4
5
6
7
IN1
OUT1
OUT2
IN2
CNT2
CNT3
VSS

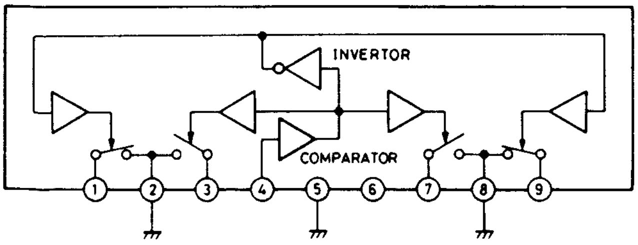
LOGIC DIAGRAM AND TRUTH TABLE



IN/OUT
OUT/IN
CNT
(CONTROL)

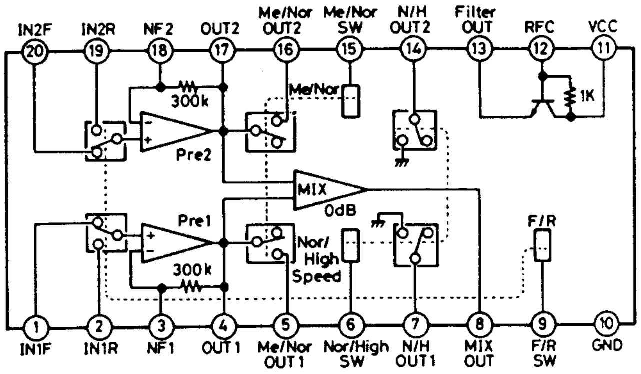
CONTROL	SWITCH
0=VSS	OFF
1=VDD	ON

IC375 µPC1330H (2-ch Head Select Switch)



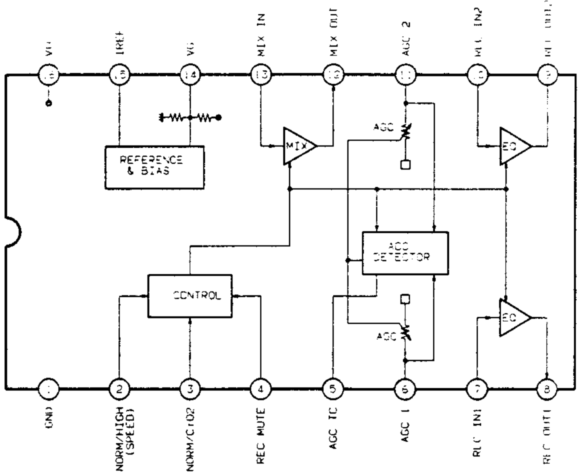
INVERTOR
COMPARATOR
1
2
3
4
5
6
7
8
9

IC370 LA3246 (Pre & Mixing Amplifier with Electrical Switch)



IN2F
IN2R
NF2
OUT2
Me/Nor OUT2
Me/Nor SW
N/H OUT2
Filter OUT
RFC
VCC
20
19
18
17
16
15
14
13
12
11
300k
Me/Nor
1K
Pre2
MIX
0dB
Pre1
Nor/ High Speed
F/R
300k
1
2
3
4
5
6
7
8
9
10
IN1F
IN1R
NF1
OUT1
Me/Nor OUT1
Nor/High SW
N/H OUT1
MIX OUT
F/R SW
GND

IC374 CXA1298AP (Equalizer Amplifier for Record)



VH
IREF
VG
MIX IN
MIX OUT
AGC 2
REC IN2
REC OUT2
16
15
14
13
12
11
10
9
REFERENCE & BIAS
MIX
AGC
EQ
AGC DETECTOR
CONTROL
AGC
EQ
1
2
3
4
5
6
7
8
GND
NORM/HIGH (SPEED)
NORM/CrO2
REC MUTE
AGC TC
AGC 1
REC IN1
REC OUT1

IC BLOCK DIAGRAM (AMPLIFIER)

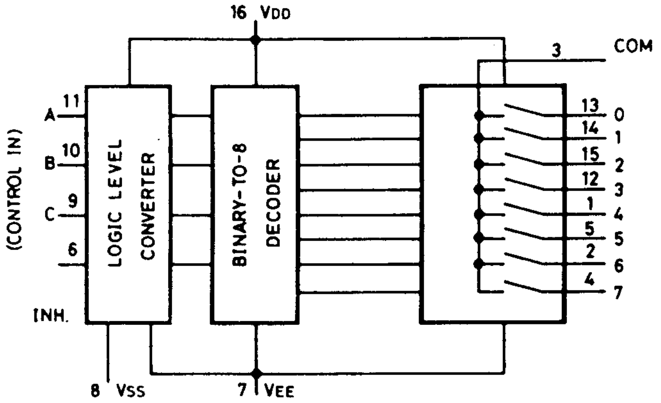
IC500 µPD75516GF-412-3B9 (Micro Processor)

PIN No.	SIGNAL NAME	I/O	DESCRIPTION	ACTIV	P OFF
1	AN0	I	AD Key Input	---	---
2	AVref	I	Reference Voltage of AD	---	---
3	VDD	I	+5V	---	---
4	VDD(VPP)	I	Connect VDD for PROM	---	---
5	PULL UP 1	O	Set Pull up Signal of AVref Backup Time : LOW	H	H
6	L/R	O	L/R Selection Control for BA3826S	L	L
7	BAND RESET	O	Reset Control for BA3826S	H	L
8	BAND A	I/O	Band Pass A Control of BA3826S	L	L
9	BAND B	I/O	Band Pass B Control of BA3826S	L	L
10	BAND C	I/O	Band Pass C Control of BA3826S	L	L
11	BASS	O	BASS Xpander Control Signal (LED)	L	H
12	DO SURR ON/OFF	O	Dolby Surround Control Signal (LED)	L	H
13	REAR VOL UP	O	Rear Volume Up Signal	H	L
14	REAR VOL DOWN	O	Rear Volume Down Signal	H	L
15	CK7522	O	Equalizer Clock of LC7522	H	L
16	DI7522	O	Data In from LC7522	H	L
17	NC	I	Not Used (VSS)	---	---
18	DA7522	O	Data Signal to LC7522	H	L
19	CK7522	O	Clock Signal to LC7522	H	L
20	NC		Not Used (VSS)	---	---
21	CE7522	O	CE(Chip Enable) of LC7522	H	L
22	FUNC C	O	C Control Signal of Function IC BU4051	H	L
23	FUNC B	O	B Control Signal of Function IC BU4051	H	L
24	FUNC A	O	A Control Signal of Function IC BU4051	H	L
25	DO ON/OFF	O	Dolby ON/OFF Control Signal H : OFF L : ON	H	L
26	DO B/C	O	Dolby B/C Control Signal H : B L : C	H	L
27	SPEED	O	High Speed Signal for Motor H : HIGH	H	L
28	PLUNGER	O	Plunger ON Signal	H	L
29	KARAOKE	I	Not Used (VSS)	---	---
30	AMSS	I	Not Used (VSS)	---	---
31	PACK A	I	Pack A Detection Signal	L : ON	
32	STOP SW	I	Stop Switch Detection Signal	L : ON	
33	VSS	---	Ground	---	---
34	G REV	I	Anti Record Detection Signal for Reverse Direction	L : ON	
35	G FWD	I	Anti Record Detection Signal for Forward Direction	L : ON	
36	PACK B	I	Pack B Detection Signal	L : ON	
37	PLAY SW	I	Play Switch Detection Signal	L : ON	
38	PULL UP 2	O	Set Pull up Signal of AVref	H	L
39	MOTOR	O	Motor ON Signal	H	L
40	SP RELAY	O	Speaker Relay ON Signal	H	L
41	-20dB MUTE	O	-20dB Muting Signal	H	L
42	-∞ MUTE	O	-∞ Muting Signal	H	L
43	POWER ON	O	Power ON Signal	H	L
44	VOL UP	O	Volume Up Signal	H	L
45	VOL DOWN	O	Volume Down Signal	H	L
46	REEL B	I	Reel B Rotate Detection Signal (Edge)		
47	REEL A	I	Reel A Rotate Detection Signal (Edge)		
48	AMSS	I	Input of Music Brank Brank : L		
49	IR	I	Infrared Ray Receiving (Remocon) Signal		
50	CT DATA	I	Micon Data from CT Unit		
51	NC		Not Used (VSS)	---	---
52	CT CLK	I	Clock from CT Unit		
53	P DOWN	I	AC ON/OFF Detection Signal H : ON		
54	VSS	---	Ground		
55	NC	I	Not Used (VSS)		
56	XT2	O	Not Used (VSS)		
57	IC	---	Ground		
58	X1	I	X'tal In (4.19 MHz)		
59	X2	O	X'tal Out (4.19 MHz)		
60	RESET	I	Reset Signal	L	
61	BUSY	O	Busy Signal	H	L
62	OSC	O	OSC Signal	H : REC	L
63	REV IND	O	Reverse Indicator (LED) Signal	L	H
64	1/2 IND	O	Deck A/B Selection Signal	L : B	L

ACTIV : Active Level P OFF : Power Off Time Level

IC BLOCK DIAGRAM (AMPLIFIER)

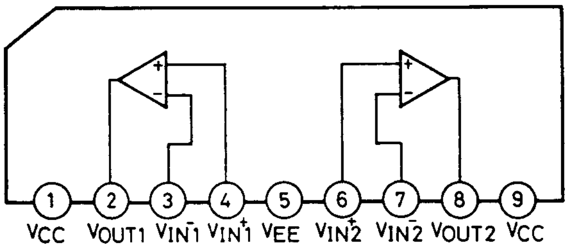
IC702・802 BU4051B (3-Input 8-Channel Multiplexer / De-Multiplexer)


16 VDD
3 COM
(CONTROL IN)
A 11
B 10
C 9
6
INH.
LOGIC LEVEL CONVERTER
BINARY-TO-8 DECODER
13 0
14 1
15 2
12 3
1 4
5 5
2 6
4 7
8 VSS
7 VEE

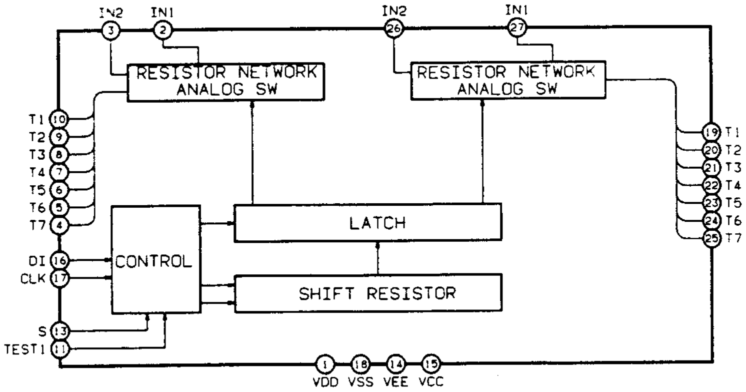
TRUTH TABLE

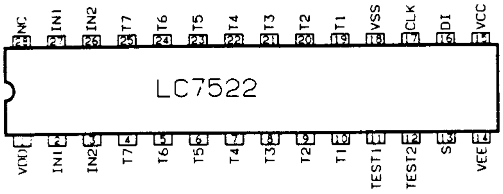
CONTROL INPUTS				(ON) CHANNEL
INHIBIT	C	B	A	4051
L	L	L	L	0
L	L	L	H	1
L	L	H	L	2
L	L	H	H	3
L	H	L	L	4
L	H	L	H	5
L	H	H	L	6
L	H	H	H	7
H	X	X	X	NONE
X : DON'T CARE				

IC701・703・704・706・709・710・711 LA6458S (Dual Operational Amplifier)

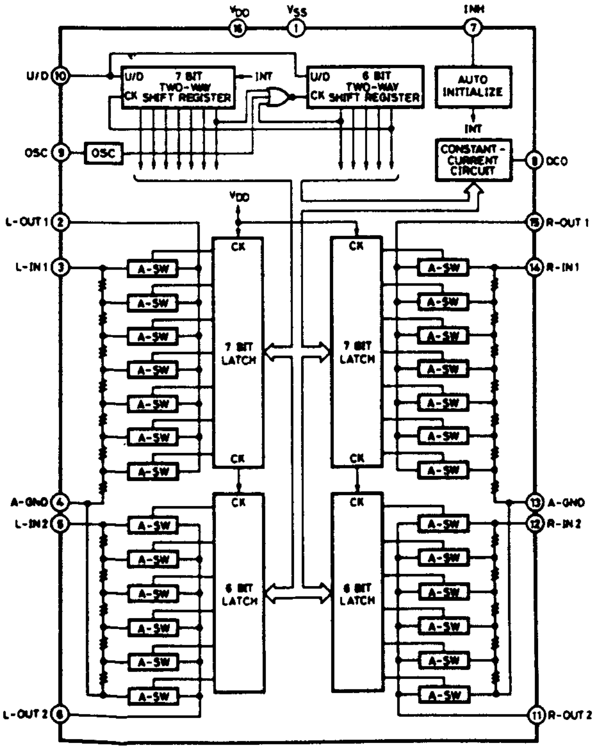

1 VCC
2 VOUT1
3 VIN1−
4 VIN1+
5 VEE
6 VIN2+
7 VIN2−
8 VOUT2
9 VCC

IC705 LC7522 (7-Segment Electronic Variable Resistor)


IN2 3
IN1 2
IN2 26
IN1 27
RESISTOR NETWORK ANALOG SW
RESISTOR NETWORK ANALOG SW
T1 10
T2 9
T3 8
T4 7
T5 6
T6 5
T7 4
19 T1
20 T2
21 T3
22 T4
23 T5
24 T6
25 T7
LATCH
CONTROL
SHIFT RESISTOR
DI 16
CLK 17
S 13
TEST1 11
1 VDD
18 VSS
14 VEE
15 VCC


28 NC
27 IN1
26 IN2
25 T7
24 T6
23 T5
22 T4
21 T3
20 T2
19 T1
18 VSS
17 CLK
16 DI
15 VCC
LC7522
1 VDD
2 IN1
3 IN2
4 T7
5 T6
6 T5
7 T4
8 T3
9 T2
10 T1
11 TEST1
12 TEST2
13 S
14 VEE

IC708 TC9153AP (Electronic Volume)

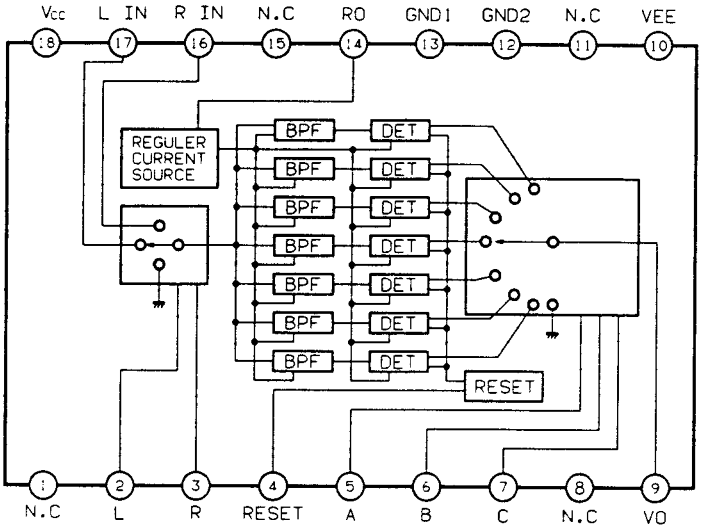

VDD 16
VSS 1
INH 7
U/D 10
U/D 7 BIT TWO-WAY CK SHIFT REGISTER
INT
U/D 6 BIT TWO-WAY CK SHIFT REGISTER
AUTO INITIALIZE
INT
OSC 9
OSC
CONSTANT-CURRENT CIRCUIT
8 OCO
VDD
L-OUT1 2
L-IN1 3
15 R-OUT1
14 R-IN1
CK
7 BIT LATCH
CK
A-SW
A-GND 4
L-IN2 5
13 A-GND
12 R-IN2
6 BIT LATCH
L-OUT2 6
11 R-OUT2

IC BLOCK DIAGRAM (AMPLIFIER)

PIN No.	SIGNAL NAME	I/O	DESCRIPTION	ACTIV	P OFF
65	FOR IND	O	Forward Indicator (LED) Signal	L	H
66	DOLBY R/P	O	Dolby Rec/Play Control Signal	H : REC	L
67	C STOP	O	CD Stop Signal	L	H
68	DUB IN/OUT	O	Dubbing IN/OUT Selection Signal	L	H
69	P MUTE	O	Play Muting Signal	H	H
70	R MUTE	O	Record Muting Signal	H	H
71	REC IND	O	Record Indicator (LED) Signal	L	H
72	DISCO PARTY	O	Not Used (VSS)		
73	A-VSS		AD Ground	---	---
74	PHONO OR VIDEO	I	Not Used (VSS)		
75	MOTOR OR ELECT	I	Not Used (VDD)		
76	REMOCON KEY	I	Not Used (VDD)		
77	NC	I	Not Used (VSS)		
78	BAND LEVEL IN	I	Band Pass VO-IN from BA3826S		
79	VOL LEVEL DC IN	I	Volume Level DC OUT		
80	AN1	I	AD Key Input		

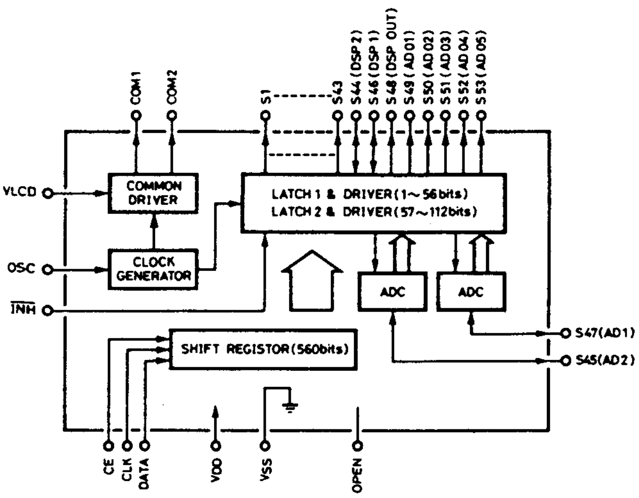
ACTIV : Active Level P OFF : Power Off Time Level

IC501 BA3826S (Band Pass Filter for Spectrum Analyzer)



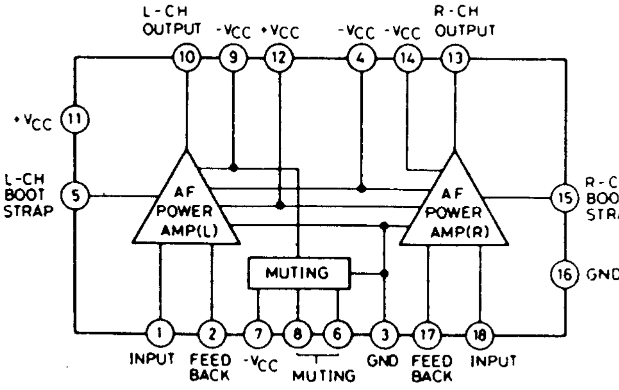
Vcc
L IN
R IN
N.C
RO
GND1
GND2
N.C
VEE
18
17
16
15
14
13
12
11
10
REGULER CURRENT SOURCE
BPF
DET
RESET
1
2
3
4
5
6
7
8
9
N.C
L
R
RESET
A
B
C
N.C
VO

IC551 LC7582 (LCD Driver)



COM1
COM2
S1
S43
S44 (DSP2)
S46 (DSP1)
S48 (DSP OUT)
S49 (AD01)
S50 (AD02)
S51 (AD03)
S52 (AD04)
S53 (AD05)
VLCD
COMMON DRIVER
OSC
CLOCK GENERATOR
INH
LATCH 1 & DRIVER (1~56bits)
LATCH 2 & DRIVER (57~112bits)
ADC
ADC
SHIFT REGISTOR (560bits)
S47(AD1)
S45(AD2)
CE
CLK
DATA
VDD
VSS
OPEN

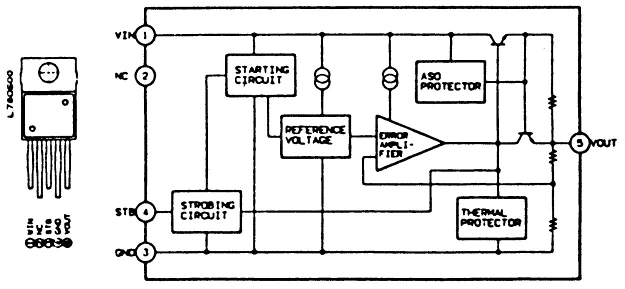
IC700 STK4132MKII (AF Power Amplifier)



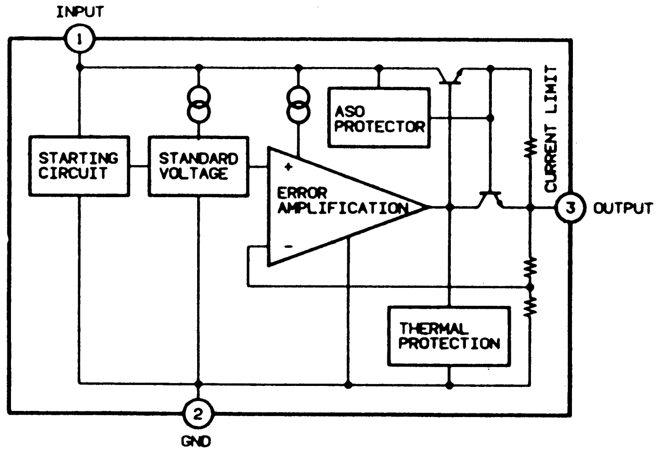
L-CH OUTPUT
-VCC
+VCC
-VCC
-VCC
R-CH OUTPUT
10
9
12
4
14
13
+VCC
11
L-CH BOOT STRAP
5
AF POWER AMP(L)
AF POWER AMP(R)
R-CH BOOT STRAP
15
16
GND
MUTING
1
2
7
8
6
3
17
18
INPUT
FEED BACK
-VCC
MUTING
GND
FEED BACK
INPUT

IC BLOCK DIAGRAM (AMPLIFIER)

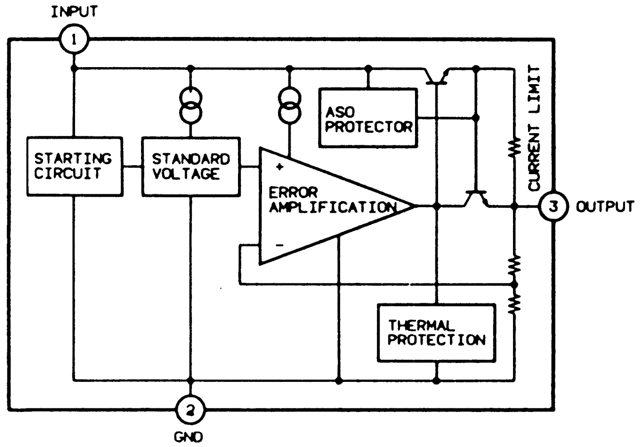
IC900 · 903 L78OS12 (5-Terminal Voltage Regulator)


L78OS00
VIN 1
NC 2
GND 3
STB 4
5 VOUT
STARTING CIRCUIT
REFERENCE VOLTAGE
ERROR AMPLI-FIER
ASO PROTECTOR
STROBING CIRCUIT
THERMAL PROTECTOR

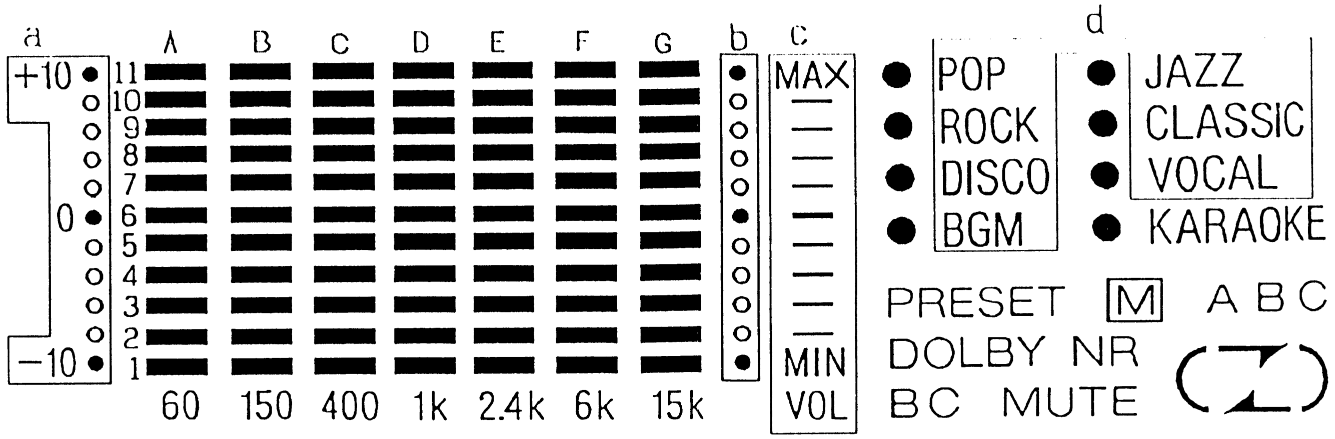
IC901 L78M05 (3-Terminal Voltage Regulator)

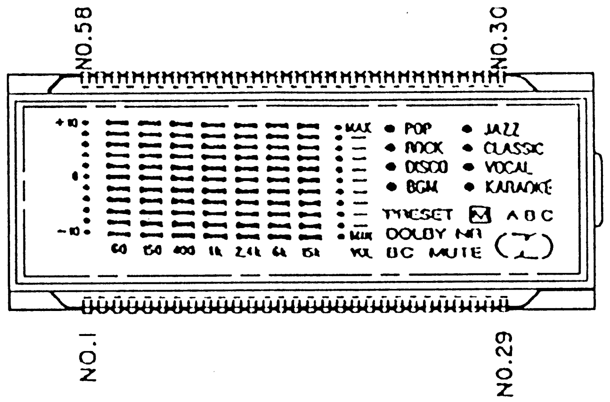

INPUT
1
STARTING CIRCUIT
STANDARD VOLTAGE
ERROR AMPLIFICATION
+
-
ASO PROTECTOR
CURRENT LIMIT
3 OUTPUT
THERMAL PROTECTION
2
GND

IC902 L7812ML (3-Terminal Voltage Regulator)


INPUT
1
STARTING CIRCUIT
STANDARD VOLTAGE
ERROR AMPLIFICATION
+
-
ASO PROTECTOR
CURRENT LIMIT
3 OUTPUT
THERMAL PROTECTION
2
GND

LCD (SPECTRUM ANALYZER)


a
A
B
C
D
E
F
G
b
c
d
+10
0
-10
11
10
9
8
7
6
5
4
3
2
1
60
150
400
1k
2.4k
6k
15k
MAX
MIN
VOL
POP
ROCK
DISCO
BGM
JAZZ
CLASSIC
VOCAL
KARAOKE
PRESET
M
A B C
DOLBY NR
BC MUTE
( )


NO.58
NO.30
NO.1
NO.29

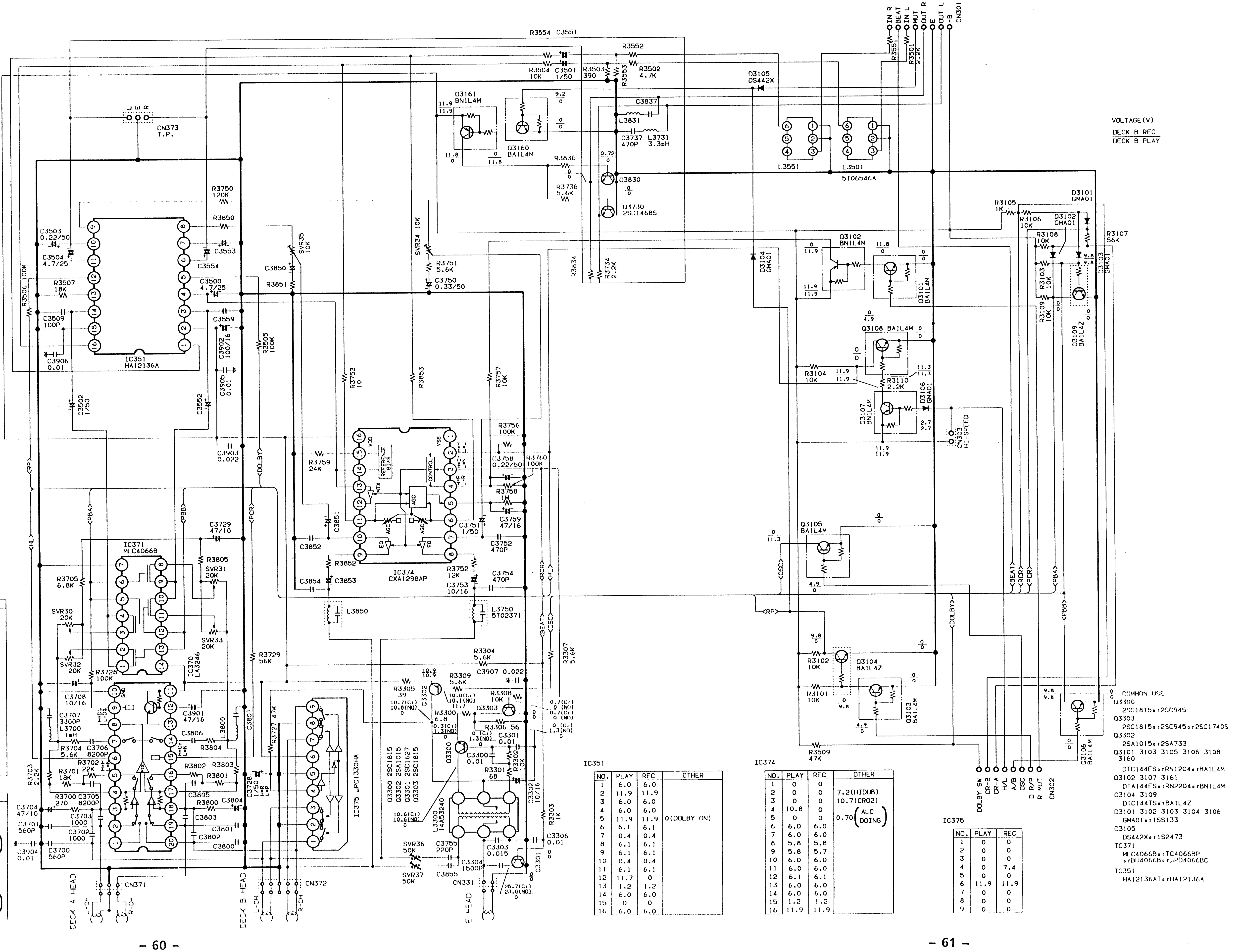
NO.	COM. 1	COM. 2
1		a
2	A5	B5
3	A4	B4
4	A3	B3
5	A2	B2
6	A1	B1
7		60 · 150
8	C5	D5
9	C4	D4
10	C3	D3
11	C2	D2
12		400 · 1K
13	C1	D1
14	E5	F5
15	E4	F4

NO.	COM. 1	COM. 2
16	E3	F3
17		2.4K · 6K
18	E2	F2
19	E1	F1
20	G4	B (DOLBY)
21	G3	C (DOLBY)
22	G1	15K
23	G2	c
24		b
25	G5	DOLBY NR
26	G6	PRESET
27	(	MUTE
28	→	←
29	M	)
30	A	● (JAZZ)

NO.	COM. 1	COM. 2
31	B	● (CLAS)
32	C	● (VOCA)
33	KARAOKE	● (KARA)
34	G7	d
35	G8	● (BGM)
36	G9	● (DISC)
37	G10	● (ROCK)
38	G11	● (POP)
39	E8	F8
40	E9	F9
41	E10	F10
42	E11	F11
43	E7	F7
44	E6	F6
45	C9	D9

NO.	COM. 1	COM. 2
46	C9	D9
47	C10	D10
48	C11	D11
49	C8	D8
50	C7	D7
51	C6	D6
52	A10	B10
53	A11	B11
54	A8	B8
55	A7	B7
56	A6	B6
57	COM. 1	
58		COM. 2

SCHEMATIC DIAGRAM (TAPE DECK AMPLIFIER)



IC351 HA12136A
IC374 CXA1298AP
IC371 MLC4066B
IC370 LA3246
IC375 µPC1330HA
CN373 T.P.
CN371
CN372
CN331
CN301
CN302
CN353 HI-SPEED
DECK A HEAD
DECK B HEAD
E HEAD
L-CH
R-CH
IN R
BEAT
IN L
MUT
OUT R
E
OUT L
+B
DOLBY SW
CR-B
CR-A
H/L
A/B
OSC
D R/P
R MUT
Q3161 BN1L4M
Q3160 BA1L4M
Q3830
Q3730 2SD1468S
Q3102 BN1L4M
Q3101 BA1L4M
Q3108 BA1L4M
Q3107 BN1L4M
Q3105 BA1L4M
Q3104 BA1L4Z
Q3103 BA1L4M
Q3106 BA1L4M
Q3109 BA1L4Z
Q3300 2SC1815
Q3302 2SA1015
Q3301 2SC1627
Q3303 2SC1815
D3101 GMA01
D3102 GMA01
D3103 GMA01
D3104 GMA01
D3105 DS442X
D3106 GMA01
L3551
L3501 5T06546A
L3831
L3731 3.3mH
L3850
L3750 5T02371
L3300 14A53240
L3700 1mH
SVR30 20K
SVR31 20K
SVR32 20K
SVR33 20K
SVR34 10K
SVR35 10K
SVR36 50K
SVR37 50K
REFERENCE BIAS
CONTROL
MIX
AGC
EQ
VDD
VSS
<RP>
<HL>
<PBA>
<PBB>
<PCR>
<DOLBY>
<RCR>
<BEAT>
<OSC>

VOLTAGE(V)

DECK B REC / DECK B PLAY

IC370

NO.	PLAY	REC	OTHER
1	0	0	
2	0	0	
3	0.58	0.56	
4	5.3	5.3	
5	5.3	5.3	
6	0	0	5.5(HIDUB)
7	0	0	
8	5.2	5.2	6.7 (DECK 1 PLAY
9	0	0	
10	0	0	
11	11.9	11.9	
12	11.8	11.8	
13	11.0	11.0	
14	0	0	
15	0.60	0.60	5.5(CRO2)
16	5.1	5.1	
17	5.1	5.1	
18	0.56	0.56	
19	0	0	
20	0	0	

IC371

NO.	PLAY	REC	OTHER
1	5.2	5.2	
2	5.2	5.2	
3	5.2	5.2	
4	5.2	5.2	
5	0	0	11.4 (DECK 1
6	0	0	11.4 PLAY)
7	0	0	
8	5.2	5.2	
9	5.2	5.2	
10	5.2	5.2	
11	5.2	5.2	
12	9.8	9.8	0 (DECK 1
13	9.8	9.8	0 PLAY)
14	11.9	11.9	

IC351

NO.	PLAY	REC	OTHER
1	6.0	6.0	
2	11.9	11.9	
3	6.0	6.0	
4	6.0	6.0	
5	11.9	11.9	0(DOLBY ON)
6	6.1	6.1	
7	0.4	0.4	
8	6.1	6.1	
9	6.1	6.1	
10	0.4	0.4	
11	6.1	6.1	
12	11.7	0	
13	1.2	1.2	
14	6.0	6.0	
15	0	0	
16	6.0	6.0	

IC374

NO.	PLAY	REC	OTHER
1	0	0	
2	0	0	7.2(HIDUB)
3	0	0	10.7(CRO2)
4	10.8	0	0.70 (ALC DOING)
5	0	0	
6	6.0	6.0	
7	6.0	6.0	
8	5.8	5.8	
9	5.8	5.7	
10	6.0	6.0	
11	6.0	6.0	
12	6.1	6.1	
13	6.0	6.0	
14	6.0	6.0	
15	1.2	1.2	
16	11.9	11.9	

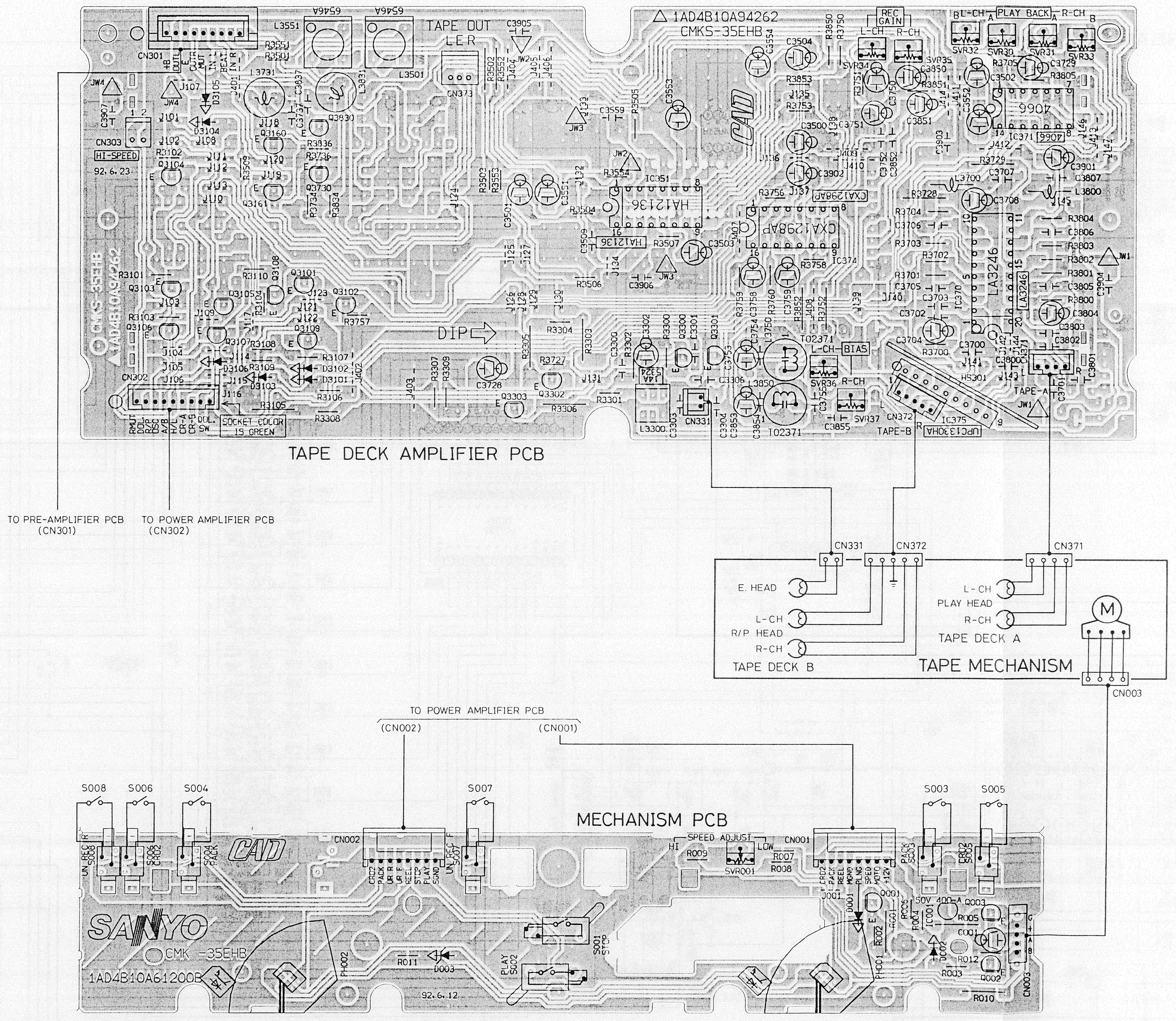
IC375

NO.	PLAY	REC
1	0	0
2	0	0
3	0	0
4	0	7.4
5	0	0
6	11.9	11.9
7	0	0
8	0	0
9	0	0

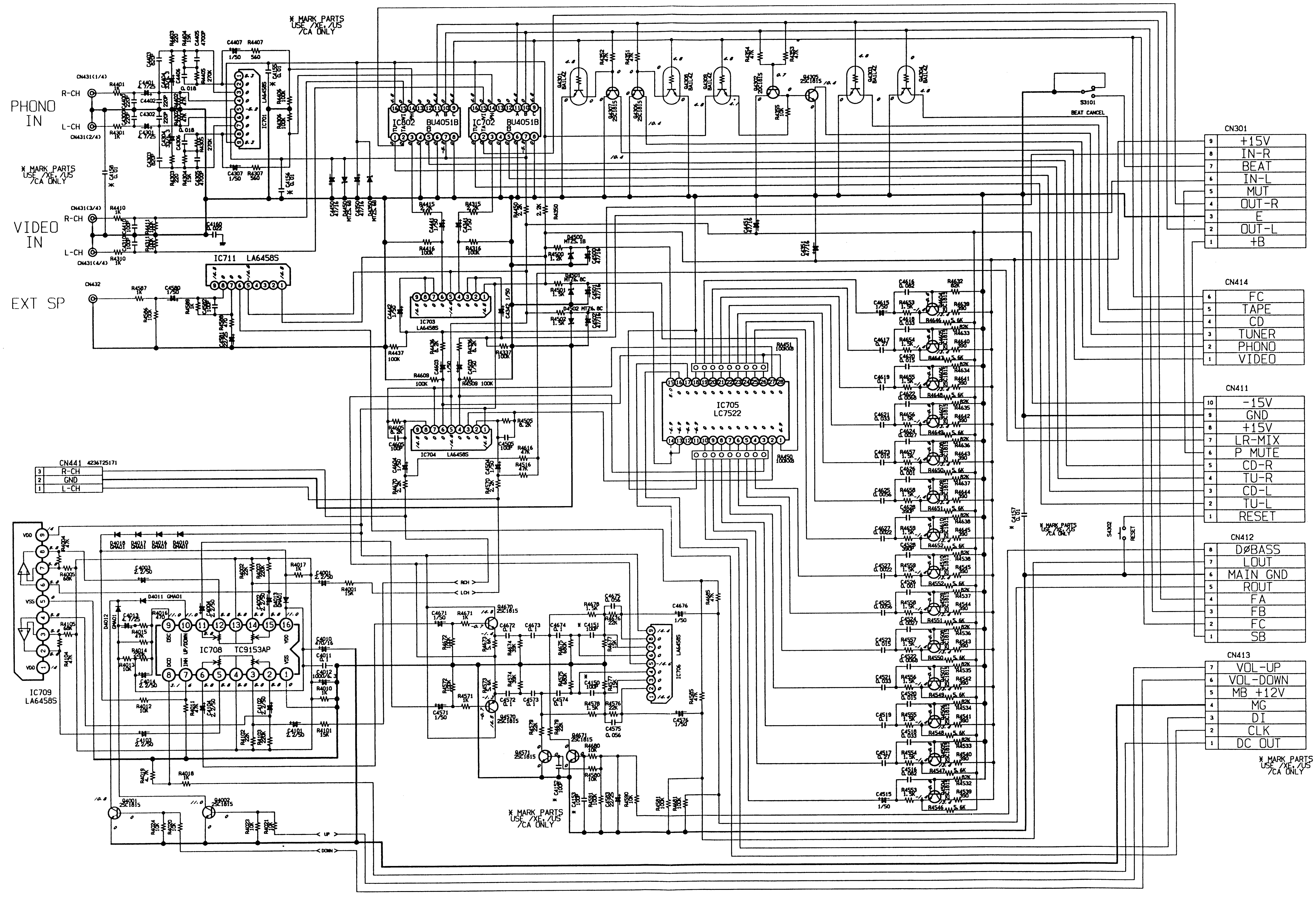
COMMON USE

Q3300
  2SC1815 or 2SC945
Q3303
  2SC1815 or 2SC945 or 2SC1740S
Q3302
  2SA1015 or 2SA733
Q3101 3103 3105 3106 3108
 3160
  DTC144ES or RN1204 or BA1L4M
Q3102 3107 3161
  DTA144ES or RN2204 or BN1L4M
Q3104 3109
  DTC144TS or BA1L4Z
D3101 3102 3103 3104 3106
  GMA01 or 1SS133
D3105
  DS442X or 1S2473
IC371
  MLC4066B or TC4066BP
  or BU4066B or µPD4066BC
IC351
  HA12136AT or HA12136A

WIRING DIAGRAM (TAPE DECK AMPLIFIER)

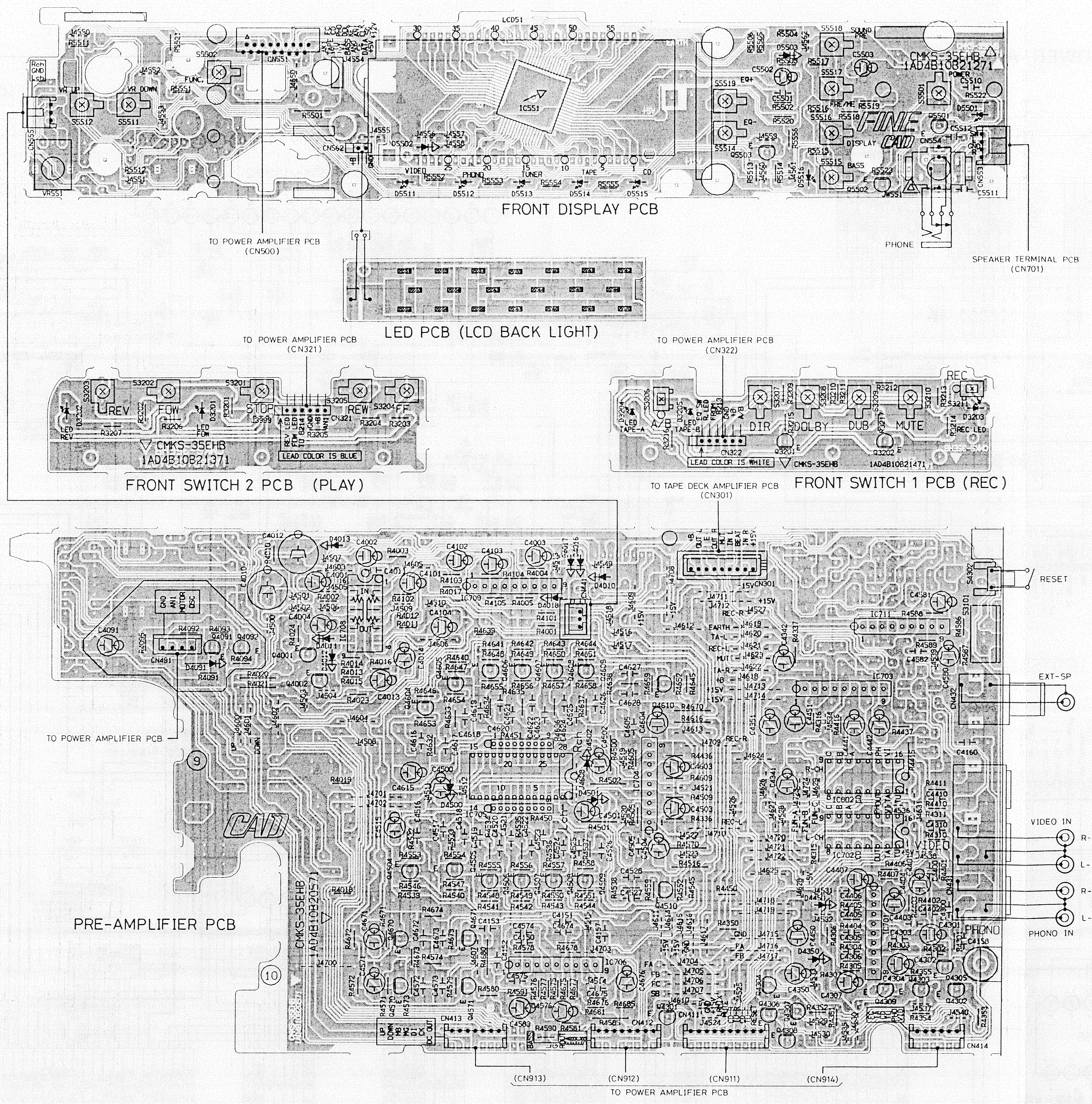

TAPE DECK AMPLIFIER PCB
1AD4B10A94262
CMKS-35EHB
CN301
CN302
CN303
HI-SPEED
92.6.23
TAPE OUT L E R
CN373
REC GAIN
L-CH R-CH
PLAY BACK
SVR32 SVR30 SVR31 SVR33
SVR34 SVR35
HA12136
CXA1298AP
LA3246
4066
UPC1330HA
BIAS
SVR36 SVR37
CN331
CN372
CN371
TAPE-A
TAPE-B
DIP
SOCKET COLOR IS GREEN
TO PRE-AMPLIFIER PCB (CN301)
TO POWER AMPLIFIER PCB (CN302)
E. HEAD
L-CH
R/P HEAD
R-CH
TAPE DECK B
L-CH
PLAY HEAD
R-CH
TAPE DECK A
M
TAPE MECHANISM
CN003
TO POWER AMPLIFIER PCB
(CN002)
(CN001)
S008 S006 S004
S007
S003 S005
MECHANISM PCB
CN002
CN001
SPEED ADJUST
HI
LOW
R009
SVR001
R007
R008
SANYO
CMK-35EHB
1AD4B10A61200B
92.6.12
S001 STOP
S002 PLAY
D003
R011
Q001 Q002 Q003
IC001
50V 400mA
R005
R012
R003
R010

SCHEMATIC DIAGRAM (PRE-AMPLIFIER)

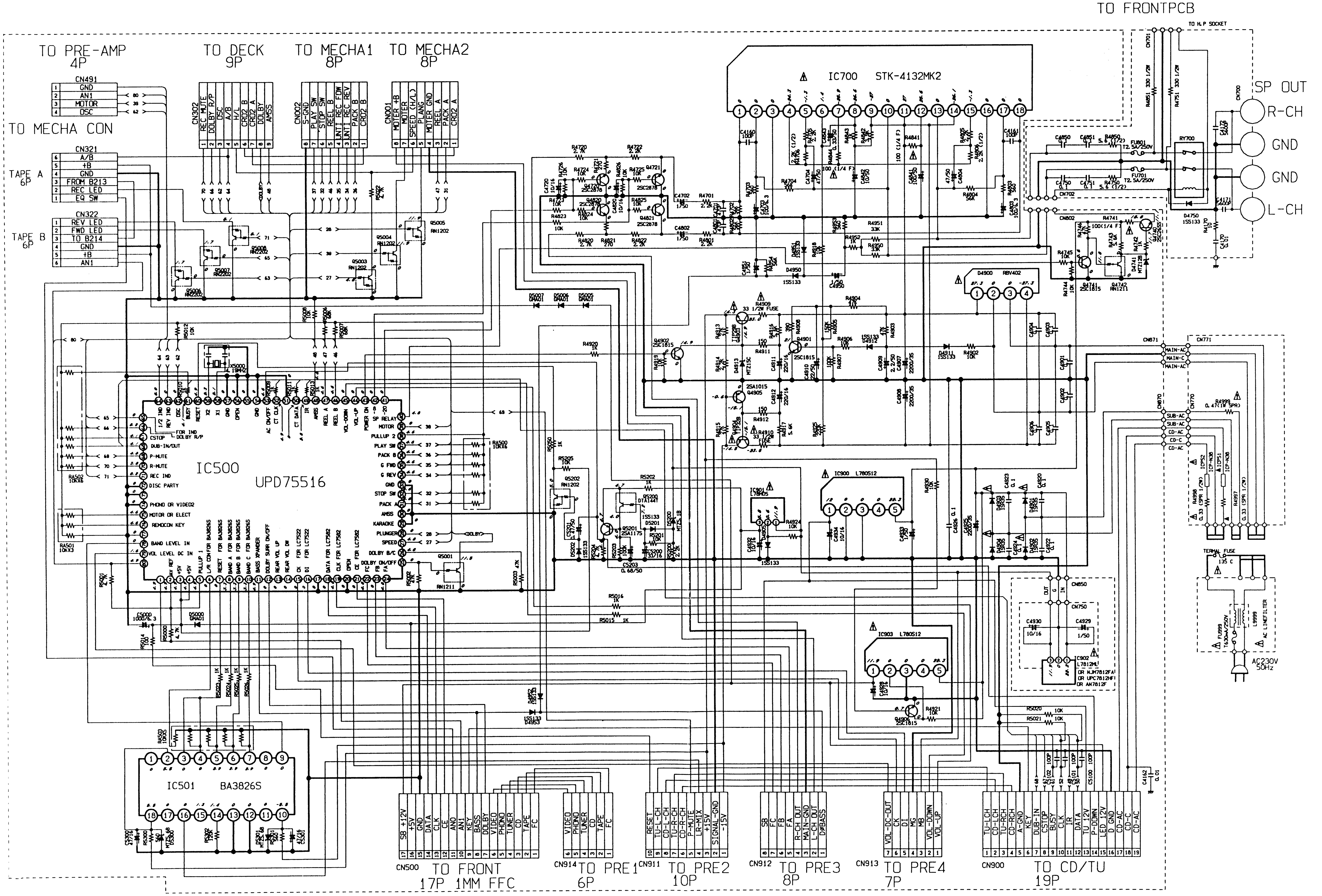


※ MARK PARTS USE /XE, /US /CA ONLY
PHONO IN
R-CH
L-CH
VIDEO IN
EXT SP
CN431(1/4)
CN431(2/4)
CN431(3/4)
CN431(4/4)
CN432
IC701 LA6458S
IC802 BU4051B
IC702 BU4051B
IC711 LA6458S
IC703 LA6458S
IC704 LA6458S
IC705 LC7522
IC706 LA6458S
IC708 TC9153AP
IC709 LA6458S
S3101 BEAT CANCEL
S4302 RESET
CN441 4236T25171
R-CH
GND
L-CH
CN301
+15V
IN-R
BEAT
IN-L
MUT
OUT-R
E
OUT-L
+B
CN414
FC
TAPE
CD
TUNER
PHONO
VIDEO
CN411
-15V
GND
+15V
LR-MIX
P MUTE
CD-R
TU-R
CD-L
TU-L
RESET
CN412
DØBASS
LOUT
MAIN GND
ROUT
FA
FB
FC
SB
CN413
VOL-UP
VOL-DOWN
MB +12V
MG
DI
CLK
DC OUT
RCH
LCH
UP
DOWN
VDD
VSS

WIRING DIAGRAM (PRE-AMPLIFIER & FRONT)

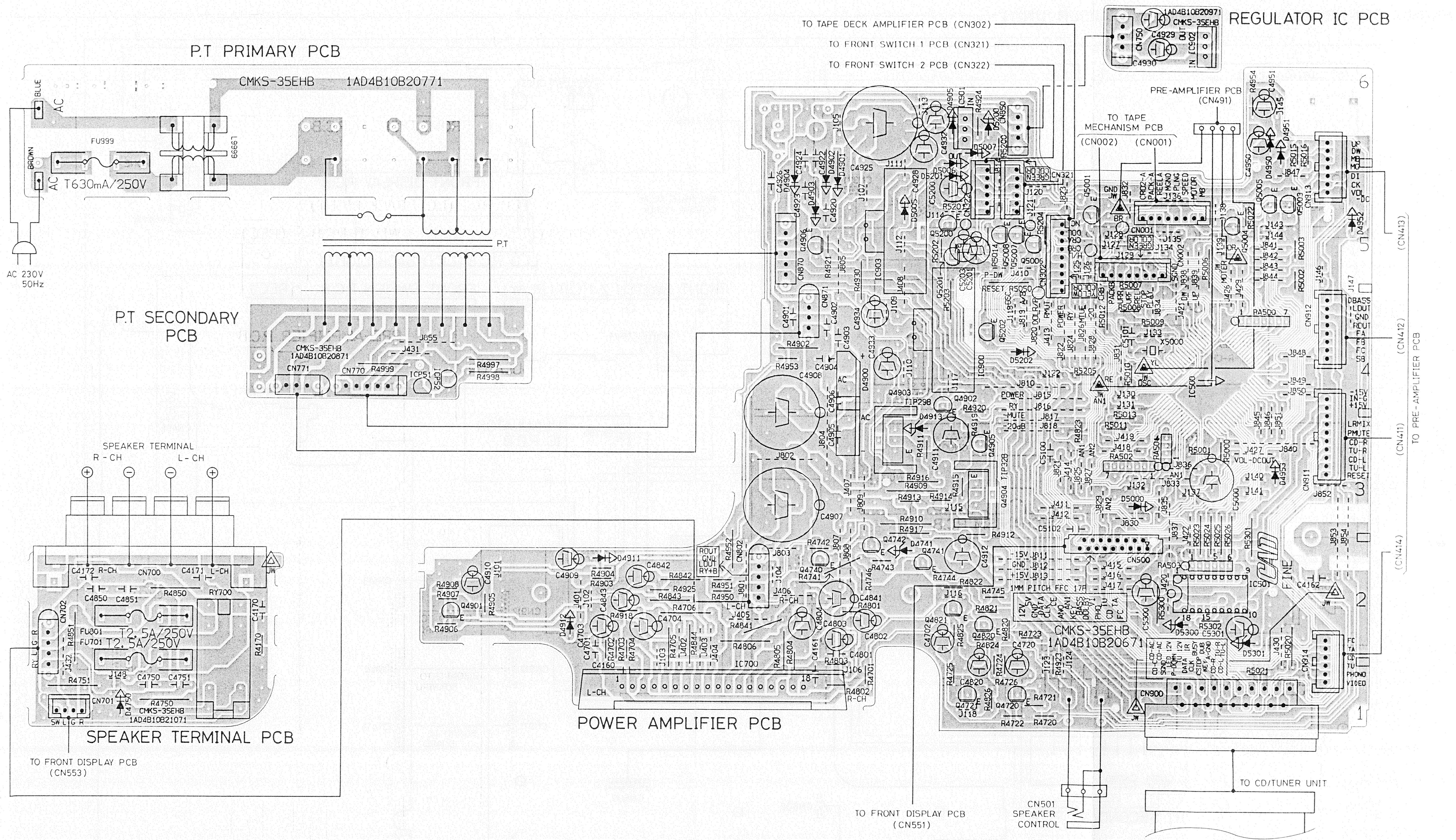

FRONT DISPLAY PCB
CMKS-35EHB
1AD4B10B21271
LCD51
IC551
FINE CAD
TO POWER AMPLIFIER PCB
(CN500)
PHONE
SPEAKER TERMINAL PCB
(CN701)
LED PCB (LCD BACK LIGHT)
TO POWER AMPLIFIER PCB
(CN321)
FRONT SWITCH 2 PCB (PLAY)
CMKS-35EHB
1AD4B10B21371
LEAD COLOR IS BLUE
TO POWER AMPLIFIER PCB
(CN322)
FRONT SWITCH 1 PCB (REC)
LEAD COLOR IS WHITE
CMKS-35EHB
1AD4B10B21471
TO TAPE DECK AMPLIFIER PCB
(CN301)
RESET
EXT-SP
VIDEO IN
R-CH
L-CH
R-CH
L-CH
PHONO IN
TO POWER AMPLIFIER PCB
PRE-AMPLIFIER PCB
CMKS-35EHB
1AD4B10B20571
CAD
(CN913)
(CN912)
(CN911)
(CN914)
TO POWER AMPLIFIER PCB

SCHEMATIC DIAGRAM (SYSCON & POWER AMPLIFIER)

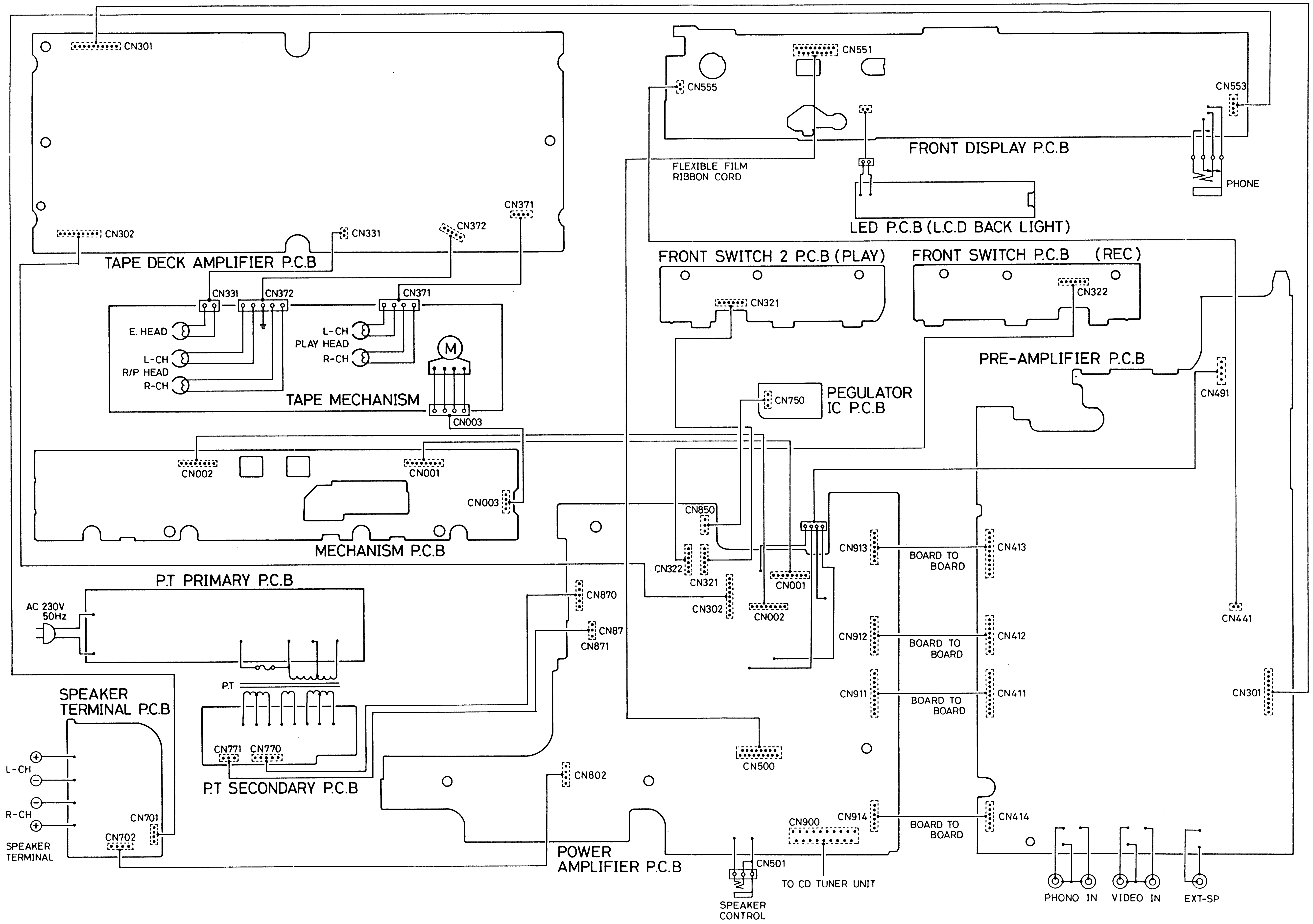


TO FRONTPCB
TO H.P SOCKET
TO PRE-AMP 4P
CN491
GND
AN1
MOTOR
DSC
TO DECK 9P
CN302
REC MUTE
DOLBY R/P
DSC
A/B
H/L
CR02 B
CR02 A
DOLBY
AMSS
TO MECHA1 8P
CN002
S-GND
PLAY SW
STOP SW
REEL B
UNIT REC FOW
UNIT REC REV
PACK B
CR02 B
TO MECHA2 8P
CN001
MOTER +B
MOTER
SPEED (H/L)
PLANG
MOTER GND
REEL A
PACK A
CR02 A
TO MECHA CON
CN321
TAPE A 6P
A/B
+B
GND
FROM B213
REC LED
EQ SW
CN322
TAPE B 6P
REV LED
FWD LED
TO B214
GND
+B
AN1
IC700 STK-4132MK2
SP OUT
R-CH
GND
GND
L-CH
CN700
RY700
IC500
UPD75516
1/2 IND
REV IND
RESET
X2
X1
GND
OPEN
AC ON/OFF
CT CLK
CT DATA
IR
AMSS
REEL A
REEL B
VOL-DOWN
VOL-UP
POWER ON
SP RELAY
MOTOR
PULLUP 2
PLAY SW
PACK B
G FWD
G REV
GND
STOP SW
PACK A
AMSS
KARAOKE
PLUNGER
SPEED
DOLBY
CSTOP
DUB-IN/OUT
P-MUTE
R-MUTE
REC IND
DISC PARTY
PHONO OR VIDEO2
MOTOR OR ELECT
REMOCON KEY
BAND LEVEL IN
VOL LEVEL DC IN
FOR IND
DOLBY R/P
AV REF
+5V
+5V
PULLUP 1
L/R CON FOR BA3826S
RESET
BAND A FOR BA3826S
BAND B FOR BA3826S
BAND C FOR BA3826S
BASS XPANDER
DOLBY SURR ON/OFF
REAR VOL UP
REAR VOL DN
CK FOR LC7522
DI FOR LC7522
DATA FOR LC7582
CLK FOR LC7582
OPEN
CE FOR LC7582
DOLBY B/C
DOLBY ON/OFF
FC
FB
FA
X5000
RA500 10KX6
RA502 10KX6
RA501 10KX3
Q5001 RN1211
Q5002
Q5003 RN1202
Q5004 RN1202
Q5005 RN1202
Q5006 RN2202
Q5007 RN2202
Q5008 RN2202
Q5200 DTA144T
Q5201 2SA1175
Q5202 RN1202
D5005 GMA01
D5006 GMA01
D5007 GMA01
D5000 GMA01
D5201
D5202 1SS133
C5000 1000/6.3
C5203 0.68/50
Q4720 2SC2878
Q4721 2SC2878
Q4820 2SC2878
Q4821 2SC2878
Q4900 2SC1815
Q4901 2SC1815
Q4902 2SC1815
Q4905 2SA1015
Q4741 2SC1815
Q4742 RN1211
Q4740 2SC2655
D4900 RBV402
D4950 1SS133
D4911 1SS133
D4912 1SS133
D4913 MTZ15C
D4741 MTZ12B
D4750 1SS133
D4953 1SS133
R4909 33 1/2W FUSE
R4910 33 1/2W FUSE
R4999 0.47(1W SPR)
R4851 330 1/2W
R4751 330 1/2W
FU801 T2.5A/250V
FU701 T2.5A/250V
CN702
CN802
CN871
CN771
MAIN-AC
MAIN-C
MAIN-AC
CN870
CN770
SUB-AC
SUB-AC
CD-AC
CD-C
CD-AC
ICP-N38
IC900 L780S12
IC901 L78M05
IC903 L780S12
IC902 L7812MI
OR NJM7812FA
OR UPC7812HF
OR AN7812F
CN850
CN750
C4930 10/16
C4929 1/50
OUT
G
IN
Q4906 2SC1815
R4921 10K
R5020 10K
R5021 10K
TERMAL FUSE 135 C
AC LINEFILTER
L999
F999 T630mA/250V
AC230V 50Hz
IC501 BA3826S
RA503 10KX5
D4952 1SS133
TO FRONT 17P 1MM FFC
CN500
SB +12V
+5V
GND
DATA
CLK
CE
AN0
AN1
KEY
BASS
DOLBY
PHONO
TUNER
CD
TAPE
FC
TO PRE1 6P
CN914
VIDEO
PHONO
TUNER
CD
TAPE
FC
TO PRE2 10P
CN911
RESET
TU-L-CH
CD-L-CH
TU-R-CH
CD-R-CH
P-MUTE
LR-MIX
+15V
SIGNAL-GND
-15V
TO PRE3 8P
CN912
SB
FC
FB
FA
R-CH OUT
MAIN-GND
L-CH OUT
D/BASS
TO PRE4 7P
CN913
VOL-DC-OUT
CK
DI
MB
VOL-DOWN
VOL-UP
TO CD/TU 19P
CN900
TU-LCH
CD-LCH
TU-RCH
CD-RCH
A-GND
KEY
DUB-IN
C.STOP
BUSY
CLK
IR
DATA
TU 12V
P-DOWN
LED 12V
D GND
CD-AC
CD-C
CD-AC

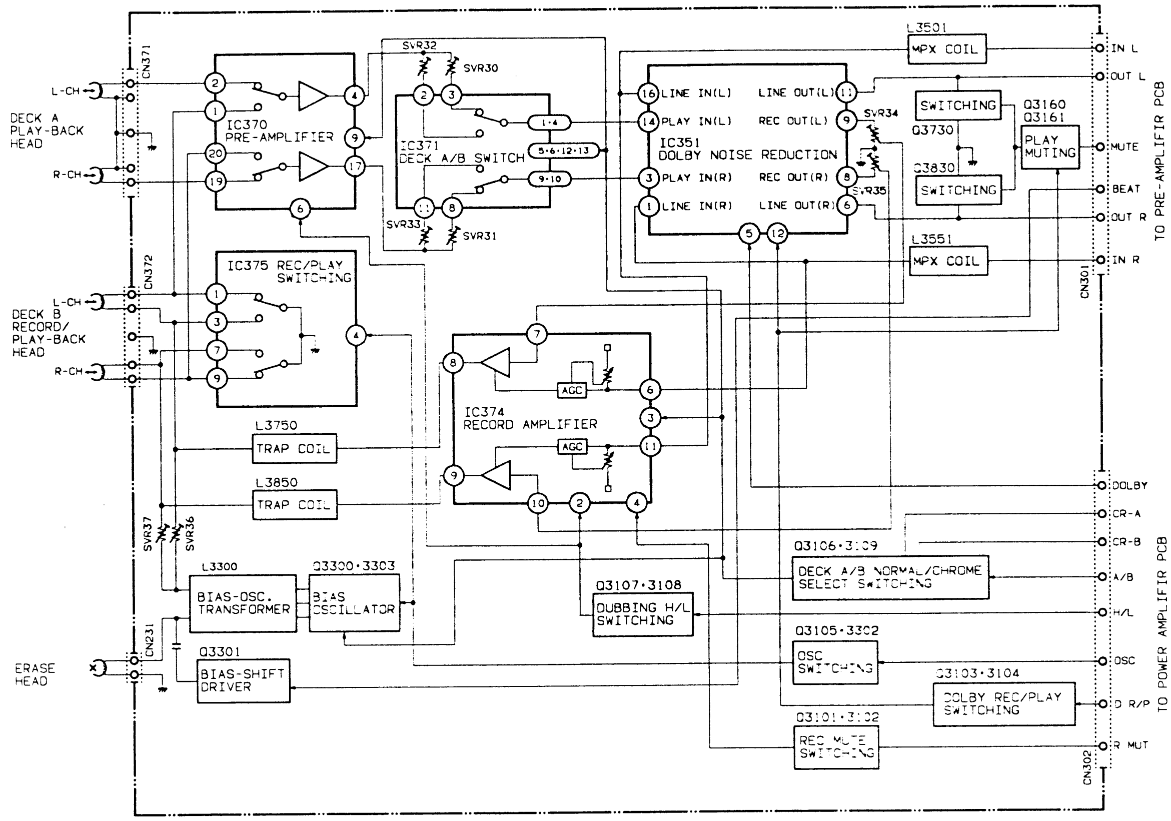
WIRING DIAGRAM (POWER AMPLIFIER)


P.T PRIMARY PCB
CMKS-35EHB 1AD4B10B20771
BLUE
BROWN
AC
FU999
T630mA/250V
AC 230V
50Hz
P.T
P.T SECONDARY PCB
CMKS-35EHB
1AD4B10B20871
CN771
CN770
R4999
R4997
R4998
ICP51
ICP52
J855
J431
SPEAKER TERMINAL
R - CH
L - CH
C4172 R-CH
CN700
C4171 L-CH
RY700
FU801 T2.5A/250V
FU701 T2.5A/250V
CN702
CN701
R4750
CMKS-35EHB
1AD4B10B21071
SW L G R
SPEAKER TERMINAL PCB
TO FRONT DISPLAY PCB
(CN553)
TO TAPE DECK AMPLIFIER PCB (CN302)
TO FRONT SWITCH 1 PCB (CN321)
TO FRONT SWITCH 2 PCB (CN322)
1AD4B10B20971
CMKS-35EHB
CN750
C4929
C4930
IC902
IN
OUT
REGULATOR IC PCB
PRE-AMPLIFIER PCB
(CN491)
TO TAPE
MECHANISM PCB
(CN002)
(CN001)
(CN413)
(CN412)
(CN411)
(CN414)
TO PRE-AMPLIFIER PCB
CN913
CN912
CN911
CN914
CN900
CN500
IC500
IC501
IC700
IC900
IC903
X5000
1MM PITCH FFC 17P
CMKS-35EHB
1AD4B10B20671
FINE
L-CH
R-CH
POWER AMPLIFIER PCB
TO FRONT DISPLAY PCB
(CN551)
CN501
SPEAKER
CONTROL
TO CD/TUNER UNIT

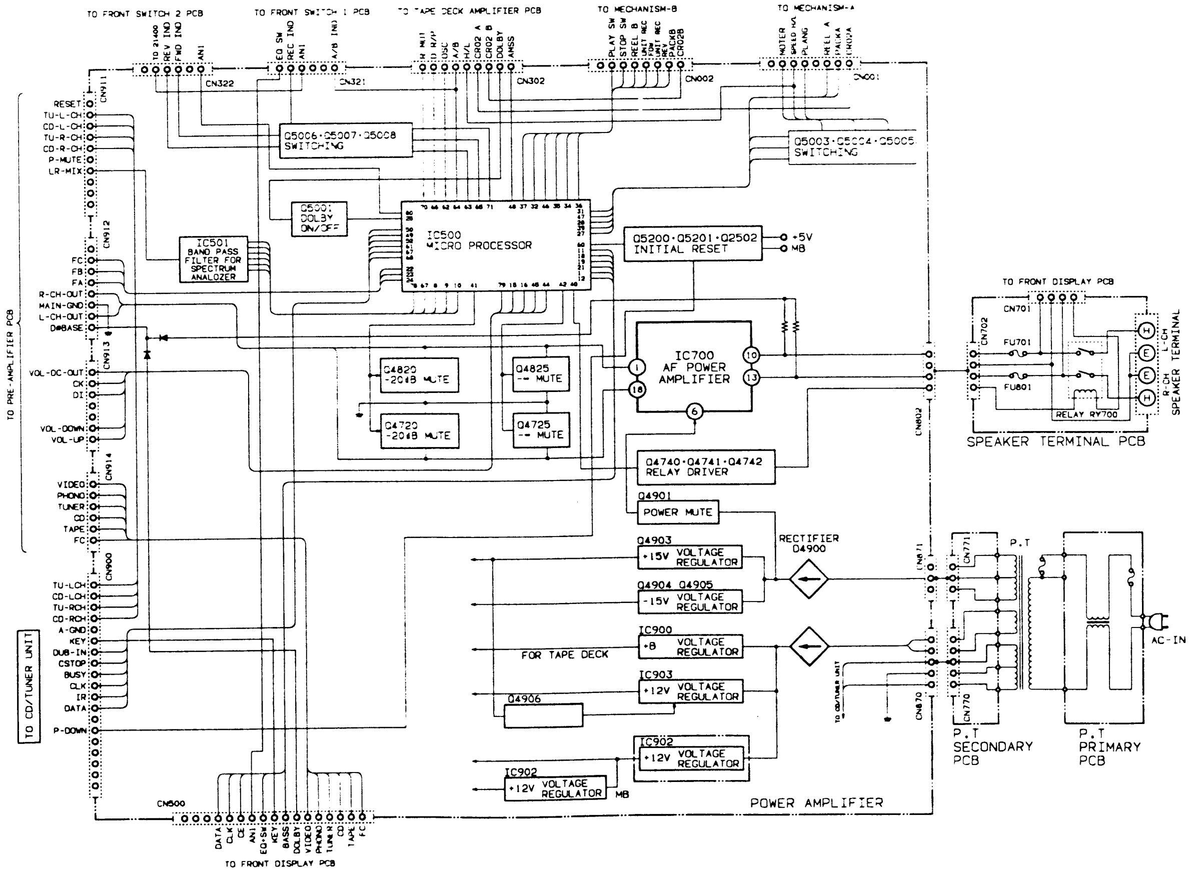
WIRING CONNECTION (TAPE DECK / AMPLIFIER UNIT)


CN301
CN302
CN331
CN372
CN371
TAPE DECK AMPLIFIER P.C.B
CN331
CN372
CN371
E. HEAD
L-CH
R/P HEAD
R-CH
L-CH
PLAY HEAD
R-CH
M
TAPE MECHANISM
CN003
CN002
CN001
CN003
MECHANISM P.C.B
P.T PRIMARY P.C.B
AC 230V
50Hz
P.T
CN771
CN770
P.T SECONDARY P.C.B
SPEAKER
TERMINAL P.C.B
L-CH
R-CH
SPEAKER
TERMINAL
CN701
CN702
CN551
CN555
CN553
FRONT DISPLAY P.C.B
FLEXIBLE FILM
RIBBON CORD
PHONE
LED P.C.B (L.C.D BACK LIGHT)
FRONT SWITCH 2 P.C.B (PLAY)
CN321
FRONT SWITCH P.C.B (REC)
CN322
PRE-AMPLIFIER P.C.B
CN491
CN750
PEGULATOR
IC P.C.B
CN850
CN322
CN321
CN302
CN001
CN002
CN913
BOARD TO
BOARD
CN413
CN912
BOARD TO
BOARD
CN412
CN911
BOARD TO
BOARD
CN411
CN441
CN301
CN870
CN87
CN871
CN500
CN802
CN900
CN914
BOARD TO
BOARD
CN414
POWER
AMPLIFIER P.C.B
CN501
SPEAKER
CONTROL
TO CD TUNER UNIT
PHONO IN
VIDEO IN
EXT-SP

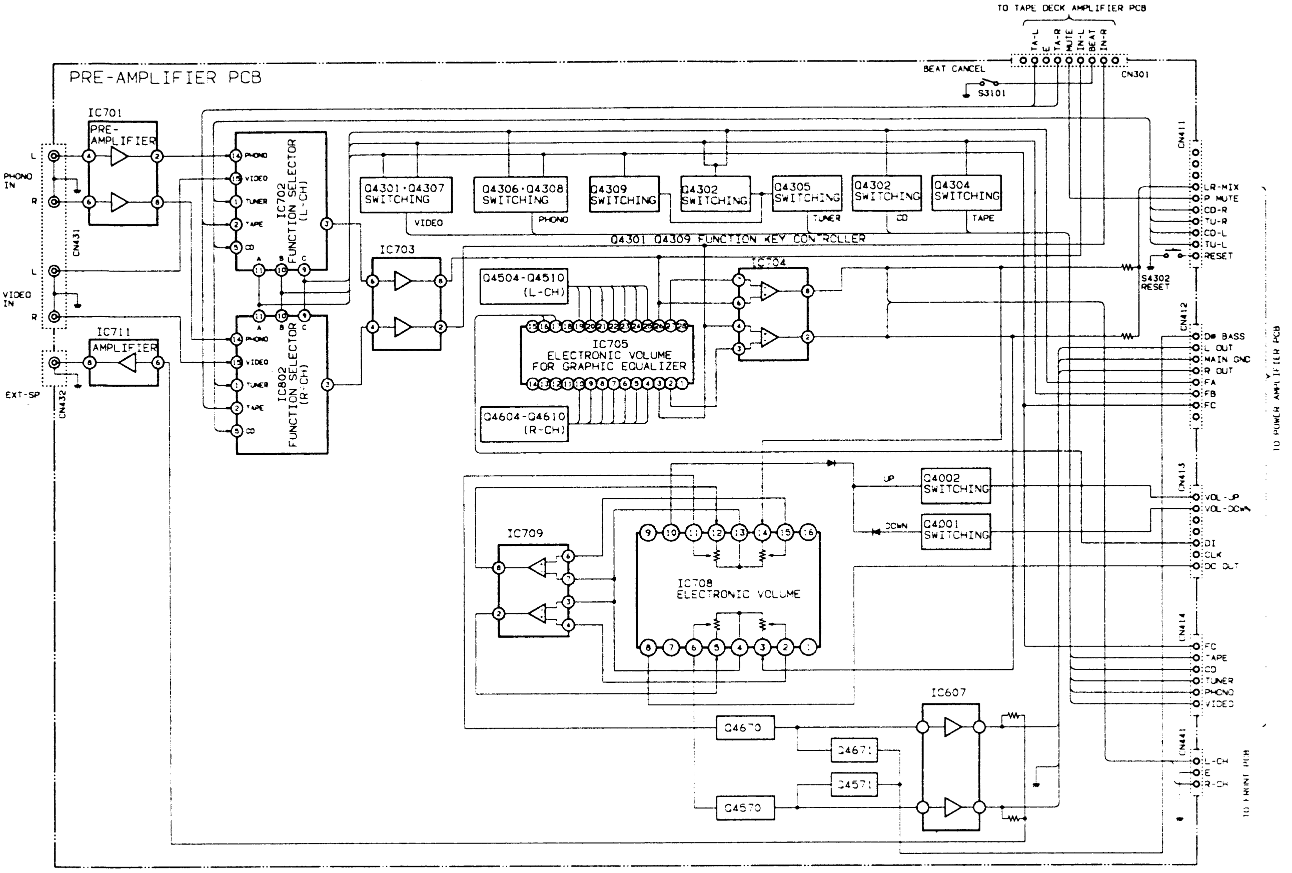
BLOCK DIAGRAM (TAPE DECK AMPLIFIER)


CN371
DECK A PLAY-BACK HEAD
L-CH
R-CH
IC370 PRE-AMPLIFIER
SVR32
SVR30
SVR33
SVR31
IC371 DECK A/B SWITCH
1·4
5·6·12·13
9·10
IC351 DOLBY NOISE REDUCTION
LINE IN(L)
PLAY IN(L)
PLAY IN(R)
LINE IN(R)
LINE OUT(L)
REC OUT(L)
REC OUT(R)
LINE OUT(R)
SVR34
SVR35
L3501
MPX COIL
SWITCHING
Q3730
Q3830
SWITCHING
Q3160 Q3161
PLAY MUTING
L3551
MPX COIL
IN L
OUT L
MUTE
BEAT
OUT R
IN R
CN301
TO PRE-AMPLIFIR PCB
CN372
DECK B RECORD/ PLAY-BACK HEAD
L-CH
R-CH
IC375 REC/PLAY SWITCHING
IC374 RECORD AMPLIFIER
AGC
AGC
L3750
TRAP COIL
L3850
TRAP COIL
SVR37
SVR36
L3300
BIAS-OSC. TRANSFORMER
Q3300·3303
BIAS OSCILLATOR
CN231
ERASE HEAD
Q3301
BIAS-SHIFT DRIVER
Q3107·3108
DUBBING H/L SWITCHING
Q3106·3109
DECK A/B NORMAL/CHROME SELECT SWITCHING
Q3105·3302
OSC SWITCHING
Q3103·3104
DOLBY REC/PLAY SWITCHING
Q3101·3102
REC MUTE SWITCHING
DOLBY
CR-A
CR-B
A/B
H/L
OSC
D R/P
R MUT
CN302
TO POWER AMPLIFIR PCB

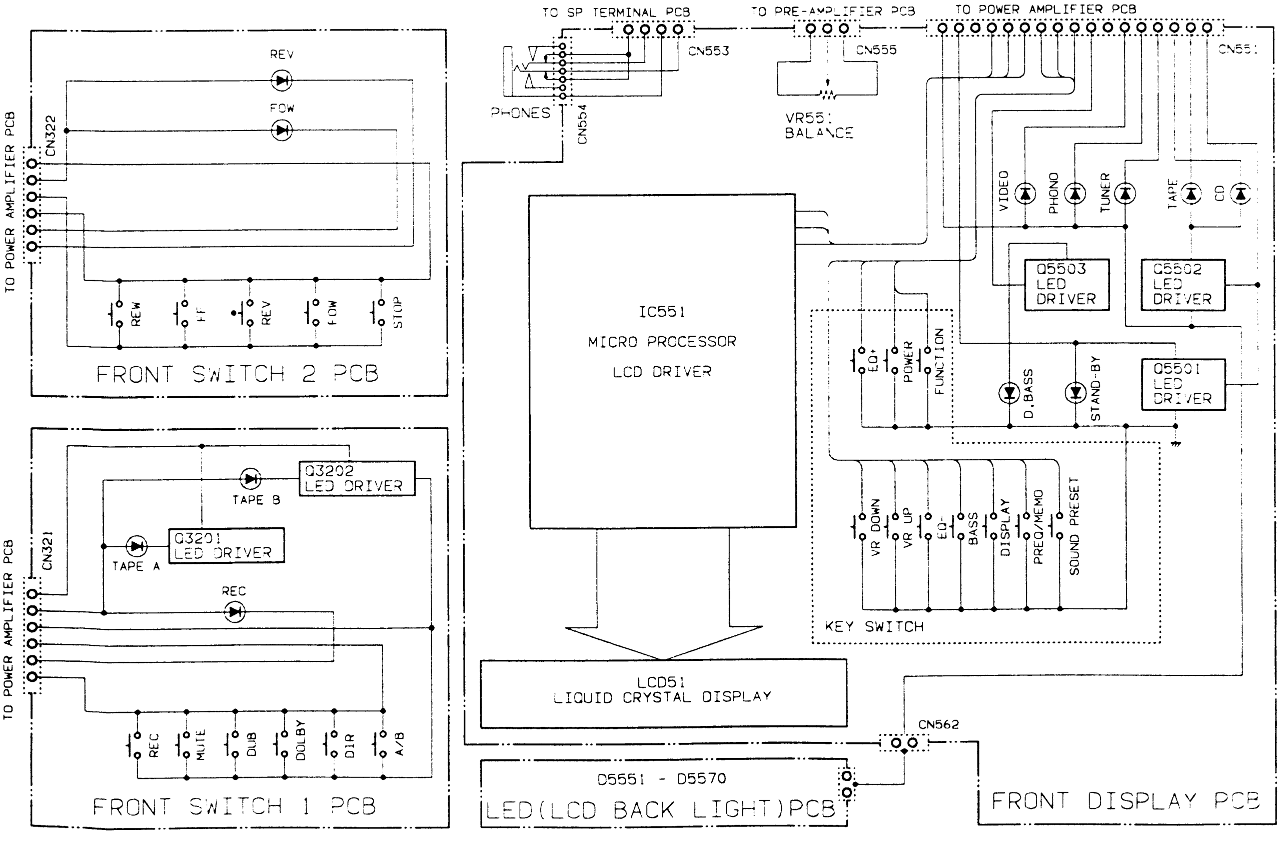
BLOCK DIAGRAM (FRONT)


TO FRONT SWITCH 2 PCB
TO 21400
REV IND
FWD IND
AN1
CN322
TO FRONT SWITCH 1 PCB
EQ SW
REC IND
AN1
A/B IND
CN321
TO TAPE DECK AMPLIFIER PCB
R MUT
D R/P
OSC
A/B
H/L
CR02 A
CR02 B
DOLBY
AMSS
CN302
TO MECHANISM-B
PLAY SW
STOP SW
REEL B
UNIT REC FOW
UNIT REC REV
PACKB
CR02B
CN002
TO MECHANISM-A
MOTER
SPEED H/L
PLANG
REEL A
PACKA
CROQA
CN001
CN911
RESET
TU-L-CH
CD-L-CH
TU-R-CH
CD-R-CH
P-MUTE
LR-MIX
CN912
FC
FB
FA
R-CH-OUT
MAIN-GND
L-CH-OUT
D BASE
CN913
VOL-DC-OUT
CK
DI
VOL-DOWN
VOL-UP
CN914
VIDEO
PHONO
TUNER
CD
TAPE
FC
TO PRE-AMPLIFIER PCB
CN900
TU-LCH
CD-LCH
TU-RCH
CD-RCH
A-GND
KEY
DUB-IN
CSTOP
BUSY
CLK
IR
DATA
P-DOWN
TO CD/TUNER UNIT
Q5006·Q5007·Q5008 SWITCHING
Q5003·Q5004·Q5005 SWITCHING
Q5001 DOLBY ON/OFF
IC501 BAND PASS FILTER FOR SPECTRUM ANALOZER
IC500 MICRO PROCESSOR
Q5200·Q5201·Q2502 INITIAL RESET
+5V
MB
Q4820 -20dB MUTE
Q4825 -- MUTE
Q4720 -20dB MUTE
Q4725 -- MUTE
IC700 AF POWER AMPLIFIER
Q4740·Q4741·Q4742 RELAY DRIVER
Q4901 POWER MUTE
Q4903 +15V VOLTAGE REGULATOR
Q4904 Q4905 -15V VOLTAGE REGULATOR
IC900 +8 VOLTAGE REGULATOR
FOR TAPE DECK
IC903 +12V VOLTAGE REGULATOR
Q4906
IC902 +12V VOLTAGE REGULATOR
IC902 +12V VOLTAGE REGULATOR
MB
RECTIFIER D4900
TO FRONT DISPLAY PCB
CN701
CN702
FU701
FU801
RELAY RY700
L-CH
R-CH
SPEAKER TERMINAL
SPEAKER TERMINAL PCB
CN802
CN871
CN771
CN870
CN770
TO CD/TUNER UNIT
P.T
P.T SECONDARY PCB
P.T PRIMARY PCB
AC-IN
POWER AMPLIFIER
CN500
DATA
CLK
CE
AN1
EQ-SW
KEY
BASS
DOLBY
VIDEO
PHONO
TUNER
CD
TAPE
FC
TO FRONT DISPLAY PCB

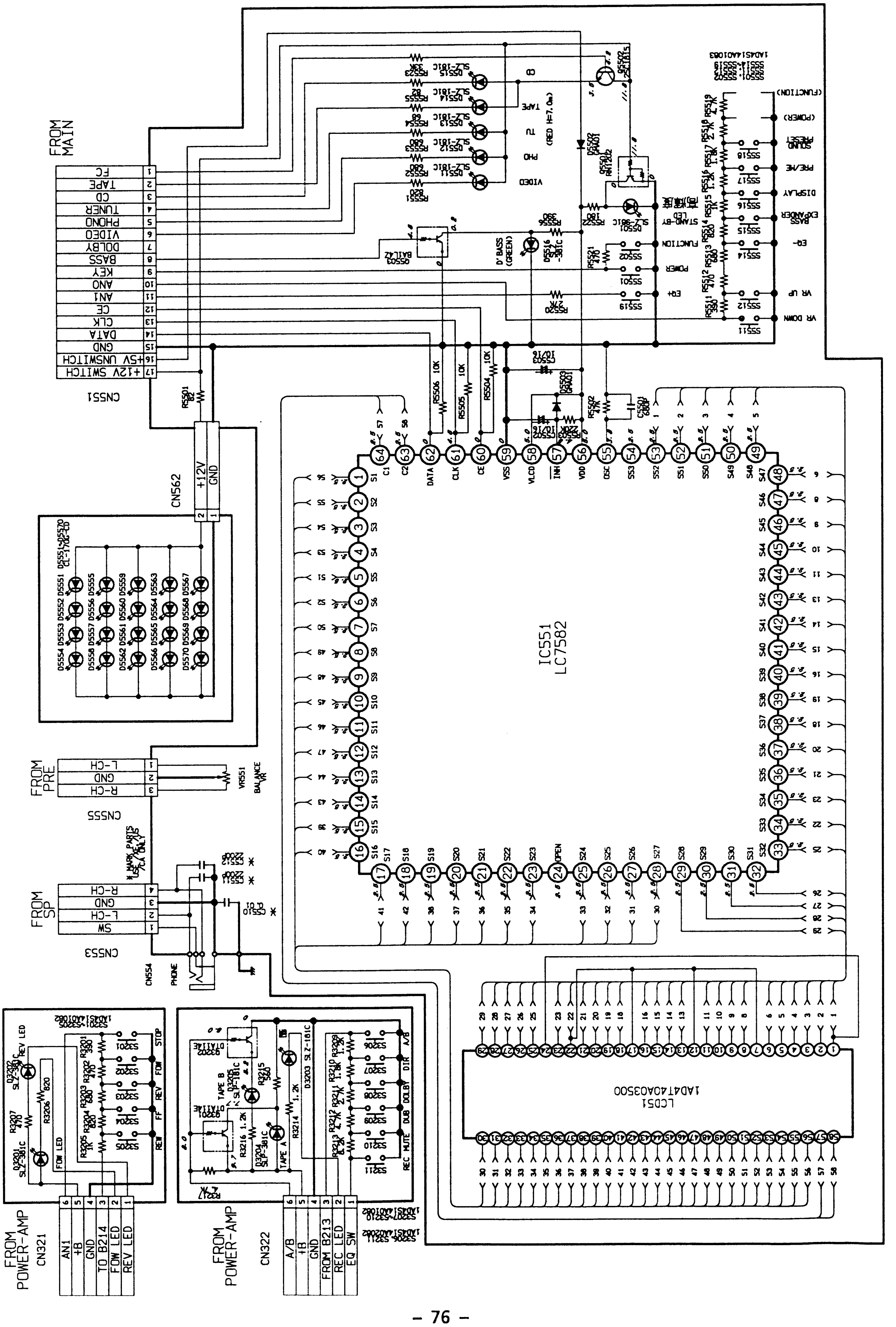
BLOCK DIAGRAM (PRE-AMPLIFIER)


TO TAPE DECK AMPLIFIER PCB
TA-L
E
TA-R
MUTE
IN-L
BEAT
IN-R
BEAT CANCEL
S3101
CN301
PRE-AMPLIFIER PCB
IC701
PRE-AMPLIFIER
PHONO IN
L
R
CN431
VIDEO IN
IC711
AMPLIFIER
EXT-SP
CN432
IC702
FUNCTION SELECTOR (L-CH)
IC802
FUNCTION SELECTOR (R-CH)
PHONO
VIDEO
TUNER
TAPE
CD
Q4301·Q4307 SWITCHING
Q4306·Q4308 SWITCHING
Q4309 SWITCHING
Q4302 SWITCHING
Q4305 SWITCHING
Q4302 SWITCHING
Q4304 SWITCHING
VIDEO
PHONO
TUNER
CD
TAPE
Q4301 Q4309 FUNCTION KEY CONTROLLER
IC703
IC704
Q4504-Q4510 (L-CH)
IC705
ELECTRONIC VOLUME FOR GRAPHIC EQUALIZER
Q4604-Q4610 (R-CH)
CN411
LR-MIX
P MUTE
CD-R
TU-R
CD-L
TU-L
RESET
S4302 RESET
CN412
D BASS
L OUT
MAIN GND
R OUT
FA
FB
FC
TO POWER AMPLIFIER PCB
Q4002 SWITCHING
Q4001 SWITCHING
UP
DOWN
CN413
VOL-UP
VOL-DOWN
DI
CLK
DC OUT
IC709
IC708
ELECTRONIC VOLUME
CN414
FC
TAPE
CD
TUNER
PHONO
VIDEO
IC607
Q4670
Q4671
Q4570
Q4571
CN441
L-CH
E
R-CH
TO FRONT PCB

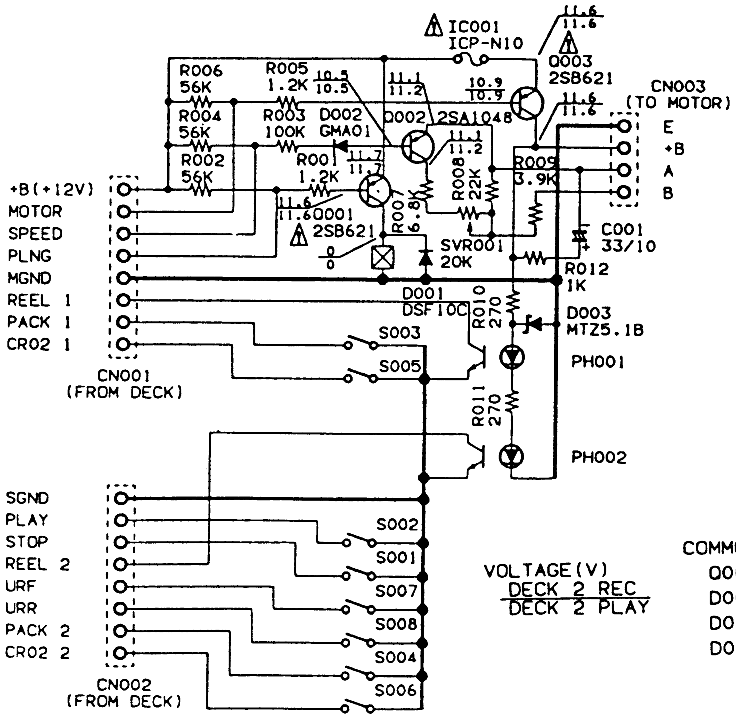
BLOCK DIAGRAM (SYSCON & POWER AMPLIFIER)


TO SP TERMINAL PCB
TO PRE-AMPLIFIER PCB
TO POWER AMPLIFIER PCB
CN553
CN555
CN551
PHONES
CN554
VR551 BALANCE
TO POWER AMPLIFIER PCB
CN322
REV
FOW
REW
FF
REV
FOW
STOP
FRONT SWITCH 2 PCB
IC551
MICRO PROCESSOR
LCD DRIVER
VIDEO
PHONO
TUNER
TAPE
CD
Q5503 LED DRIVER
Q5502 LED DRIVER
Q5501 LED DRIVER
EQ+
POWER
FUNCTION
D.BASS
STAND-BY
VR DOWN
VR UP
EQ-
BASS
DISPLAY
PREQ/MEMO
SOUND PRESET
KEY SWITCH
TO POWER AMPLIFIER PCB
CN321
Q3202 LED DRIVER
TAPE B
Q3201 LED DRIVER
TAPE A
REC
REC
MUTE
DUB
DOLBY
DIR
A/B
FRONT SWITCH 1 PCB
LCD51
LIQUID CRYSTAL DISPLAY
CN562
D5551 - D5570
LED(LCD BACK LIGHT)PCB
FRONT DISPLAY PCB

SCHEMATIC DIAGRAM (FRONT)


FROM MAIN
CN551
FC
TAPE
CD
TUNER
PHONO
VIDEO
DOLBY
BASS
KEY
ANO
AN1
CE
CLK
DATA
GND
+5V UNSWITCH
+12V SWITCH
CN562
+12V
GND
IC551
LC7582
LCD51
1ADT4DA03500
FROM PRE
CN555
L-CH
GND
R-CH
VR551
BALANCE VR
FROM SP
CN553
R-CH
GND
L-CH
SW
CN554
PHONE
FROM POWER-AMP
CN321
AN1
+B
GND
TO B214
FOW LED
REV LED
FROM POWER-AMP
CN322
A/B
+B
GND
FROM B213
REC LED
EQ SW

SCHEMATIC DIAGRAM (TAPE MECHANISM)


IC001
ICP-N10
Q003
2SB621
CN003
(TO MOTOR)
E
+B
A
B
R006
56K
R005
1.2K
R004
56K
R003
100K
D002
GMA01
R002
56K
R001
1.2K
Q002
2SA1048
Q001
2SB621
R007
6.8K
R008
22K
R009
3.9K
SVR001
20K
C001
33/10
R012
1K
D001
DSF10C
R010
270
D003
MTZ5.1B
PH001
R011
270
PH002
+B(+12V)
MOTOR
SPEED
PLNG
MGND
REEL 1
PACK 1
CR02 1
CN001
(FROM DECK)
SGND
PLAY
STOP
REEL 2
URF
URR
PACK 2
CR02 2
CN002
(FROM DECK)
S001
S002
S003
S004
S005
S006
S007
S008
11.6
10.5
10.9
11.1
11.2
11.7
0

PH001 002
SPI33534C
S001 002
1AD4S12A02000
S003~008
1AD4S13A01800

S001	STOP SW
S002	PLAY SW
S003	DECK 1 PACK SW
S004	DECK 2 PACK SW
S005	DECK 1 CR02 SW
S006	DECK 2 CR02 SW
S007	DECK 2 UNREC F SW
S008	DECK 2 UNREC R SW

VOLTAGE(V)
DECK 2 REC
DECK 2 PLAY

COMMON USE
Q002 2SA1048 or 2SA933
D001 DSF10C or 1SR35
D002 GMA01 or 1SS133
D003 MTZ5.1B or GZS5.1Y

SANYO FISHER Vertriebs GmbH

Stahlgruberring 4 Tel : 089/420 45-0
8000 München 82 Tlx : 524033

Technisches Labor/ Qualitätskontrolle Durchwahl -122/121

Service-Zentrale

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Hi-Fi/Audio	-168
Video	-172
Autoradio	-170
Ersatzteillager	-155/156/160/164
Techn. Schulung	-174

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Bitte geben Sie unbedingt die Ersatzteil-Nummer und die Modellbezeichnung an.
Sie sparen so wertvolle Zeit. Vielen Dank.

Sep./'92/1500 NS Printed in Japan.